OFFICIAL PUBLICATION OF THE MEDICAL SOCIETY OF VIRGINIA

VIRGINIA MEDICAL MONTHLY

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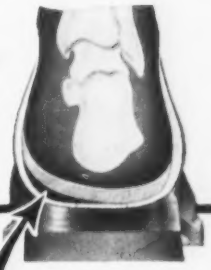

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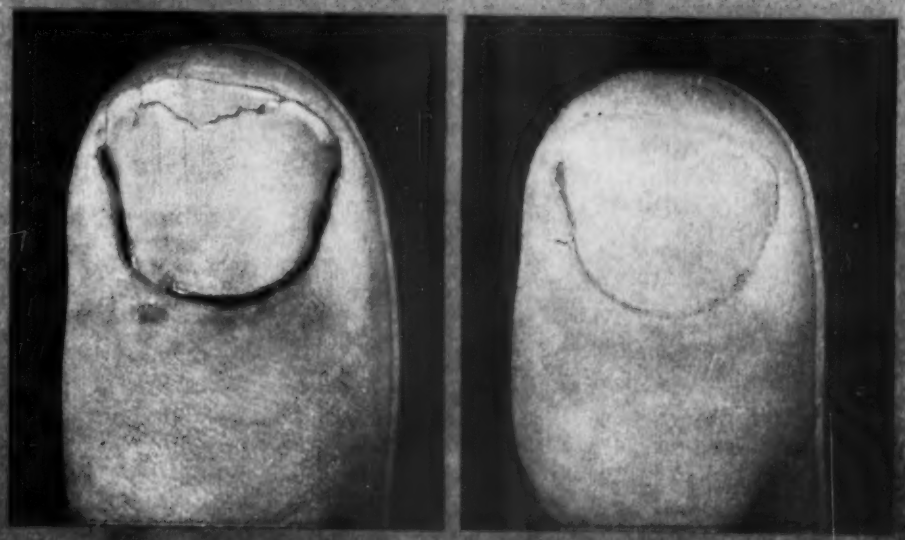

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1. Rosenberg, S. and Oster, K. A., "Gelatine in the Treatment of Brittle Nails," *Conn. State Med. J.* **19**:171-179, March 1955.
2. Tyson, T. L., *J. Invest. Dermat.* **14**:323, May 1950.

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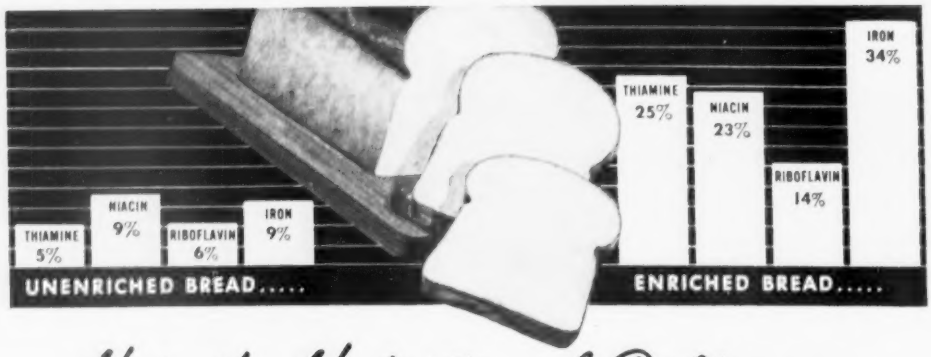

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1. Watt, B.K., and Merrill, A.L.: Composition of Foods—Raw, Processed, Prepared, United States Department of Agriculture, Agricultural Handbook no. 8, 1950.

2. Data furnished by the Laboratories of The American Institute of Baking, Chicago, Illinois.

3. Sebrell, W.H., Jr.: Trends and Needs in Nutrition, J.A.M.A. 152:42 (May 2) 1953.

4. Flour and Bread Enrichment, 1949-50, The Committee on Cereals, Food and Nutrition Board, National Research Council, 1950.

The nutritional statements made in this advertisement have been reviewed and found consistent with current medical opinion by the Council on Foods and Nutrition of the American Medical Association.

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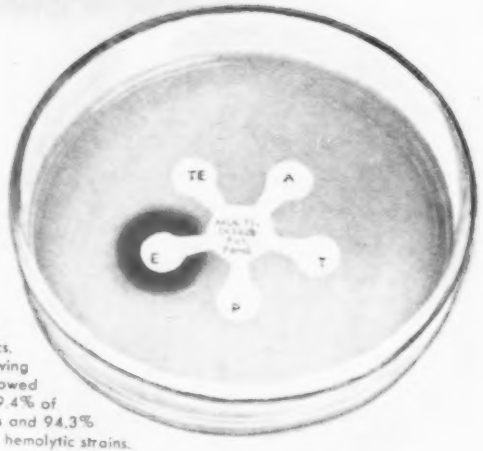

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1. Eisenberg, et al., Antib. & Chemo., 3:1026-1028, Oct. 1953.

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Bumbalo, T. S., Gustina, F. J., and Oleksiak, R. E.: J. Pediat. 44:386, 1954.

White, R. H. R., and Standen, O. D.: Brit. M. J. 2:755, 1953.

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Brown, H. W.: J. Pediat. 45:419, 1954.

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Indications: *Rheumatoid arthritis*
Bronchial asthma
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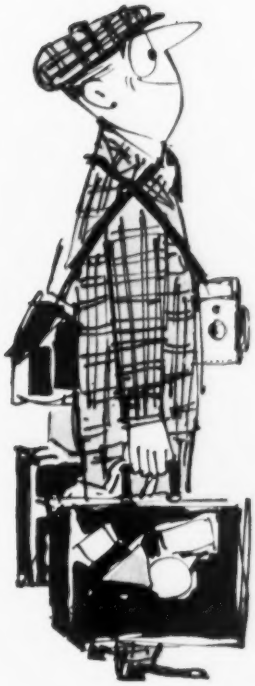

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Meat...

and Biologic Facts of Protein Metabolism

The classical work of Cannon and his associates* in the field of protein metabolism has contributed significantly to our knowledge of the biologic utilization of protein. It has established that the dietary absence of a single amino acid quickly changes the direction of metabolic activity from anabolism to catabolism. Apparently all the nonessential amino acids play some part in sparing the essential amino acids, and all may be regarded as indispensable for optimal nutrition. It has been suggested "that for maximal tissue-utilization of amino acids at least twenty per cent of the total dietary nitrogen should come from other sources than essential amino acids."

In undernourished subjects the maintenance requirement for each essential amino acid is much greater—two to almost five times greater—than in healthy subjects.

Although an optimal caloric intake facilitates optimal utilization of amino acids, a reducing regimen need not curtail full utilization of these nutrients. It has been shown that a useful degree of amino acid utilization can be attained with caloric intake considerably below the optimal.

Minerals appear to be important in the process of amino acid metabolism. Evidence indicates that either phosphate or potassium deficiency might adversely influence amino acid utilization. Absence of either ion from experimental depletion rations leads to depression of appetite and slowing of the processes of protein repletion.

B complex vitamins also affect the metabolism of proteins and amino acids. For example, rats fed a high protein diet require a high intake of B complex vitamins in order to maintain normal growth rates. Omission from the ration of any one of these vitamins (riboflavin, thiamine, pyridoxine, or pantothenate) is accompanied, in varying degrees, by lower food consumption and slower weight gain.

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*Cannon, P. R.; Frazier, L. E., and Hughes, R. H.: Factors Influencing Amino Acid Utilization in Tissue Protein Synthesis, in Symposium on Protein Metabolism, New York, The National Vitamin Foundation, Inc., 1954, pp. 55-90.

The nutritional statements made in this advertisement have been reviewed and found consistent with current medical opinion by the Council on Foods and Nutrition of the American Medical Association.

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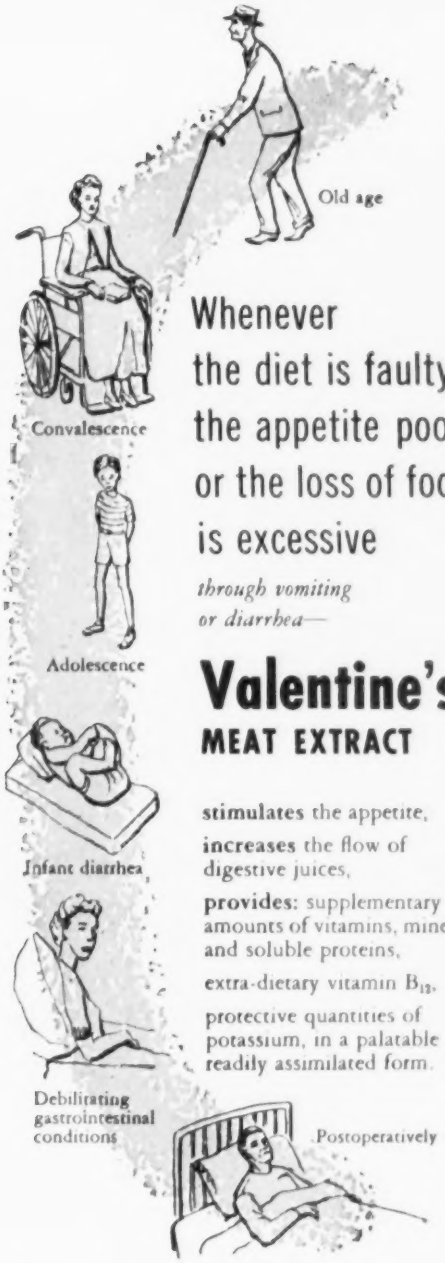

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1. Pomeranze, J. et al.: Angiology, June, 1955.
2. Freedman, L.: Angiology 6:52, Feb. 1955.

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(1) Payne, R. W.; Shetlar, M. R.; Farr, C. H.; Hellbaum, A. A., and Ishmael, W. K.: J. Lab. & Clin. Med. 45:331, 1955. (2) Bunim, J. J.; Williams, R. R., and Black, R. L.: J. Chron. Dis. 1:168, 1955. (3) Holbrook, W. P.: M. Clin. North America 39:405, 1955.

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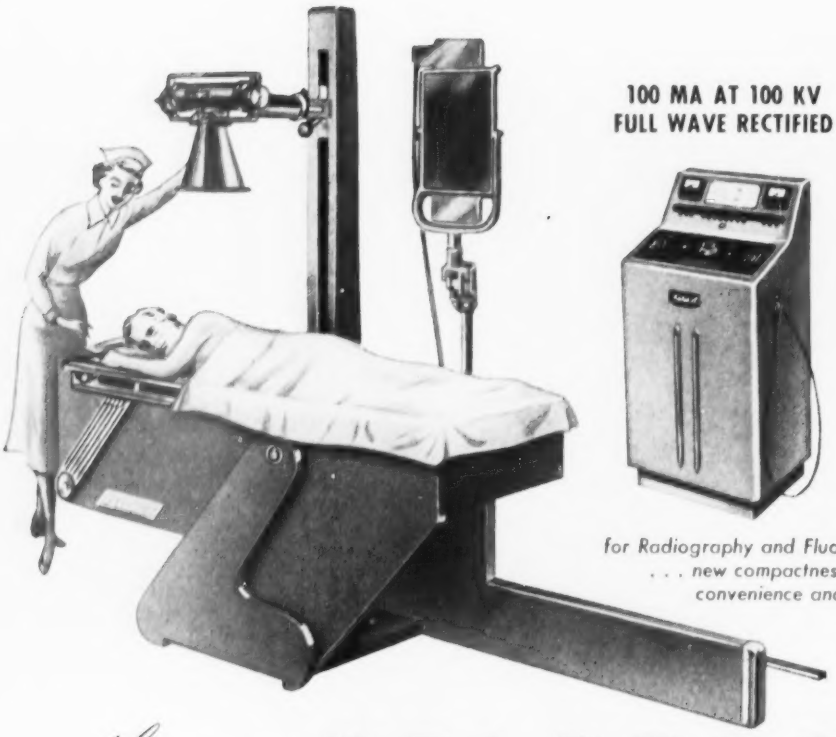

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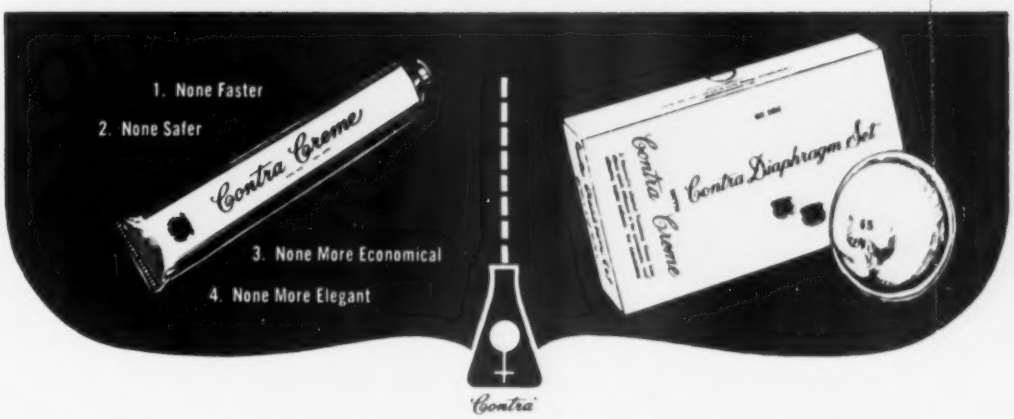

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1. James, W. F. B.: A Study Of A Simple Contraceptive Method For Clinic And Private Patients. West. J. Surg. Gyn & Ob., 59: 197, 1952. 2. Baker, J. R., Ranson, R. M. and Tynen, J.: A New Chemical Contraceptive, Lancet, P 882,, Oct. 15, 1938. 3. Report To The Council On Pharmacy And Chemistry Of The AMA: JAMA 148: 50, 1952. 4. Gamble, C. J. and Brown, R. L.: Relative Spermacidal Times of Commercial Contraceptives, Scientific Exhibit AMA Meeting, June, 1941. 5. Brown, R. L., Levenstein, I. and Becker, B.: The Spermacidal Times of Samples of Commercial Contraceptives Secured in 1942, Human Fertility 8: 65, 1943. 6. Becker, B. and Gamble, C. J.: The Spermacidal Times of Samples of Contraceptives Secured in 1943, Human Fertility 9: 6, 1944. 7. Ibid.: The Spermacidal Times of Contraceptive Jellies and Creams Secured in 1946, 11: 111, 1946. 8. New and Non Official Remedies, 1946.

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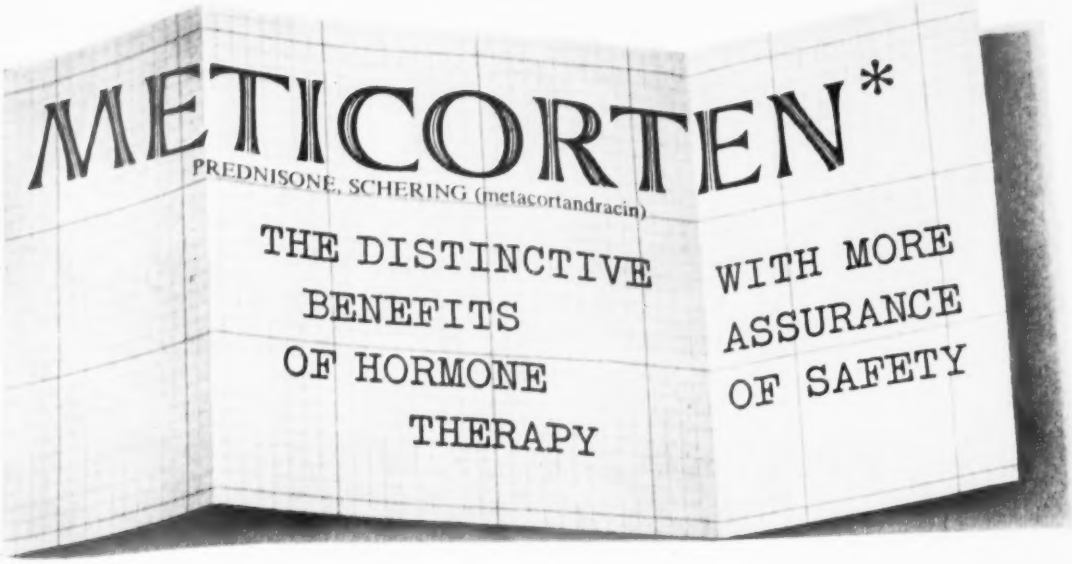

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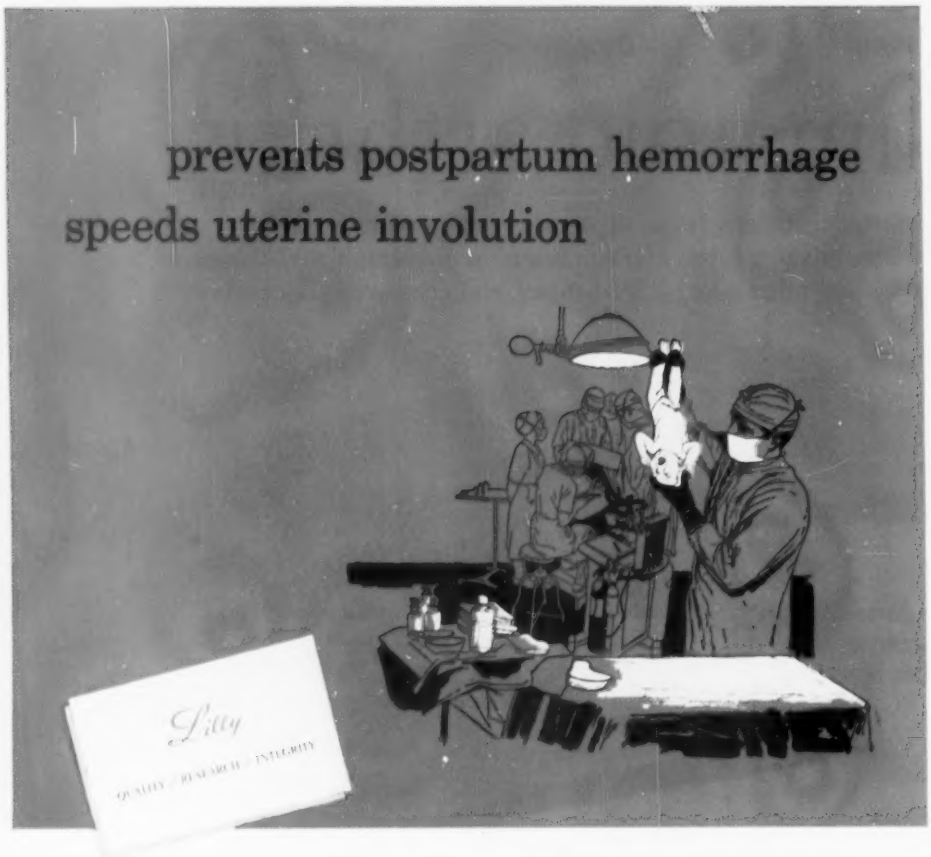

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The Virginia
MEDICAL
MONTHLY

September, 1955
Vol. 82, No. 9
Whole No. 1239

A Few Remarks on Services for Crippled Children

A. R. SHANDS, JR., M.D.
Wilmington, Delaware

FIRST, I wish to say how deeply I appreciate the honor of being asked to participate in this ceremony—the dedication of your chapel-auditorium.

We of the Nemours Foundation will always feel deeply indebted to your institution for the many profitable ideas we received in our planning years from your building and from your first surgeon-in-chief, Dr. William Tate Graham, who served on our Medical Advisory Board from 1937 to 1953. Many of our present policies and plans were influenced and guided by his helpful suggestions and sound advice. When the Virginia program of our Foundation started in 1951, it was a great source of pleasure and gratification to Dr. Graham. He repeatedly said to me how pleased he was and how much our work in Virginia would mean to the crippled children of the state.* At this time I had many conferences with your second surgeon-in-chief, Dr. H. Page Mauck, in reference to the planning of our Virginia program. I feel as if the remarks of your speaker on this occasion should pay tribute and be largely devoted to the lives and accomplishments of these two distinguished surgeons who did so much for your institution and the development of the services for crippled children in the State of Virginia. Emerson once said, "An institution is but the lengthened shadow of one man." During the 27 years of the life of your hospital, I am sure that a long shadow of one or the other of these two beloved doctors has been always with you. What they strived and worked for in association with the many devoted members of your lay boards represents what you have today. I know this beautiful addition to your hospital is but one of the many realities of their dreams.

Dr. Graham and Dr. Mauck were two great and true Christian physicians who both had strong religious convictions. Nothing could exemplify this more than the beautiful story told at Dr. Graham's funeral of little "Jimmie," whose last words were "I'm not afraid any more. God is like Dr. Graham." The work of the doctor and the work of the minister must go hand in hand. Where the work of one ends and the other begins can never be determined. Without a solid spiritual background and training many of our crippled children would be more handicapped for their life's work than they are with physical deformities.

Several years ago there was a little four-year-old boy in the Alfred I. duPont Institute named "Stevie." He was born with multiple joint deformities and an extreme weakness in all muscles. What he lacked in physical body, however, he made up in mind. His intelligence was far ahead of his years; he was inquisitive, and was always asking questions. On one occasion, in the bed next to him, a nurse was dressing a little baby who had extra fingers and toes. "Stevie" repeatedly was asking the nurse questions. Finally, he said to her, pointing to one of these extra fingers, "What is that?" The nurse replied, "Stevie, God gave this little boy six fingers on each hand and six toes on each foot." "Stevie" scratched his little head and thought awhile and then he said to the nurse, "God didn't think, did he?" God does think, as we all know, but perhaps we do not think as much as we should before acting. So the moral of this story is "to think" and to ask ourselves repeatedly, are we thinking in our planning of institutions and programs for the crippled child. The building of your hospital certainly indicates that much thinking was done by your board and planning committee. This beautiful auditorium-chapel represents the most recent example of your wise planning and thinking and, particularly, the judicious thoughts of your kind and gracious donor, Mrs. Vose.

A. R. SHANDS, JR., M.D., *Medical Director, Alfred I. duPont Institute and The Nemours Foundation.*

An address delivered at the Dedication of the Vose Memorial Chapel-Auditorium of the Crippled Children's Hospital, Richmond, Virginia, April 4, 1955.

*From January 1, 1952, to December 31, 1954, the Nemours Foundation assisted wholly, or in part, with the care of 594 handicapped children in Virginia; 389 in hospitals and 205 in speech clinics. One hundred and thirty-seven (137) of these were patients in the Crippled Children's Hospital and were given 6,197 days of hospital care with a daily average census of six.

Received for publication April 19, 1955.

In the rehabilitation of the crippled child there are two major divisions of activity—one for the body, and one for the mind. For the body there is medical care; for the mind there is education—academic, vocational and religious. What could be more appropriate than to have a chapel in which the religious education can be given in an atmosphere of a religious setting. A hospital chapel of this type cannot help but bring the church into the lives of the children more successfully than it ever could be done otherwise. With its proper use it will give to these children a more lasting impression of what religion is and what the word of God means. Unfortunately, too few institutions have chapels. Your hospital is most fortunate to have had a Mrs. Vose, who has been so deeply interested in the spiritual training of the child that she has made this chapel possible.

What has always impressed me about the Crippled Children's Hospital has been the large number of devoted lay persons on your volunteer staff. Without this dedicated group the success you have had through the years would not be yours. Those of you who have labored hard for this hospital and have seen the children treated, improved and sent home so different from what they were when they arrived, must have the feeling that all of your efforts have been worthwhile and all costs have paid rich dividends in salvaged lives. You have seen independence replacing dependence, self-respect and confidence replacing uncertainty and insecurity, and hope and courage to face life and the future for a feeling of despondency and despair. The hundreds of well-adjusted handicapped children of Virginia, who have been given here their opportunity to make the most of their abilities, are the great rewards for your contributions of time, effort and money.

A crippled children's hospital has always been the first step in the establishment of a state program for the care of the handicapped. From this beginning, well-rounded services slowly develop. Your hospital, from its small beginning for polio patients in 1919, followed by the construction of this building in 1928, was undoubtedly the real beginning of Virginia's program. In the development of services for the handicapped, the following has usually been the order of the establishment of the various facilities and services:

1. A special hospital for children disabled with orthopedic and plastic surgery conditions.

2. A system of state clinics associated with the hospital or hospitals where children can be examined before and after hospitalization.

3. A program of special education in the school system with the first classes usually being held in the hospitals and convalescent homes.

4. Vocational rehabilitation services for the children as they reach sixteen years of age, followed by vocational placement and adjustment.

5. Services for speech and hearing, which often have been started and highly developed by a private agency.

6. Services for the cerebral palsy child.

7. Services for rheumatic fever, congenital heart conditions and epilepsy.

In the developing of these state services, the shortage of personnel soon has always become apparent. Hence, an early interest has been created in every state in personnel problems, usually first in physical therapy, occupational therapy, and speech therapy. The establishment of new schools or the expansion of the old schools for the training of therapists has soon taken place. As the state departments of public instruction have assumed their responsibilities in the education of the handicapped child, it has been necessary to establish long and short term courses for the teachers in special education. With the creation of better school facilities, it rapidly has become apparent that there is a need for better programs of mental health for the handicapped child. Extending the services of child guidance clinics and meetings of parents, teachers and other personnel to discuss the emotional aspects of the handicapped child, become necessities. Along with the programs for better mental health of the child with normal mentality has come in recent years a great wave of enthusiasm for helping the child with an abnormal or retarded mentality. The development of each individual service has varied from state to state due to the particular interest of the agencies and special lay groups in communities.

Never has there been more general interest in the problems of the handicapped child than there is today. Campaigns to raise funds for the helping of every type of crippling in childhood are always with us. It is rather interesting to note that, although we hear a great deal about government spending in the field of health, private spending for the care of the handicapped child has always more than doubled that of government spending. In 1954 the actual figures were approximately seventy million dollars from private sources and thirty million from government sources. The private agency has repeatedly created an awareness of a problem and indicated to the government where its responsibility lies. Our Foundation has been particularly interested in this type of program and we hope has contributed to the

improvement of a few state services through its fourteen conferences. As many of you know, approximately 25 unmet needs for Virginia were discussed at the first Nemours Foundation-Virginia Council on Health and Medical Care conference in 1951. Today many of these needs in Virginia are no longer real problems, thanks to the efforts of the various special groups interested in the handicapped child.

The pattern of crippling in children's institutions with orthopaedic conditions is definitely changing. This is everywhere necessitating a review of services with the formulation of new plans for the future. Thirty years ago nearly 50% of the crippled children in our institutions were there because of infections of bones and joints, such as tuberculosis and osteomyelitis. Today we see practically no osteomyelitis and little tuberculosis. In 1925, 23% of all crippled children were diagnosed tuberculosis; in 1951, it was 1.5%. The rachitic deformities of bow legs and knock knees, which we used to see in large numbers, are now only occasionally observed. In 1951, these constituted 1%, whereas, in 1924, the per cent was 8. If the Salk vaccine proves to be the answer for poliomyelitis, which in 1950 was responsible for 22.4% of the crippled children in the hospitals, there will be many more empty beds in crippled children's institutions.

The big problem we have to face today in our programs for the handicapped is that of congenital malformations. It is my feeling that we are seeing more than ever before. In our institution in Wilmington, between 1950 and 1954, the per cent varied from 46 to 55. According to the Children's Bureau statistics in 1950, congenital malformations constituted nearly 50% of all crippling conditions in childhood. The questions are constantly arising at meetings, "What can we do about the congenital malformation?" and "What can be done to decrease the incidence?" There is definite experimental and clinical evidence that such things as dietary and vitamin deficiencies in the mother, the virus of German measles in the first twelve weeks of pregnancy, blood incompatibility between parents, unnecessary exposure to radiation and diabetes in the mother or father are factors in their causation. The most critical weeks of pregnancy are the first twelve when the formation of the baby is taking place. During and before this period there is little or no instruction concerning care and diet given to the young wife who wants a family. After her pregnancy has been diagnosed, she receives ample antenatal instruction. It is my feeling that there should be an intensive campaign of education for the girl expecting to be married and wanting to have children. At this time we in Delaware are in the first stages of planning a congenital malformation program for the state which will start with an accurate survey of the numbers and types of malformed children with information from the mothers concerning their pregnancies.

Statistics on congenital malformations are not too accurate. Perhaps the best we have at the present time have come from a study in the city of Philadelphia by Dr. Douglas P. Murphy of the University of Pennsylvania. This study showed that there is a congenital malformation in approximately one out of every 200 births. Once a mother has had a child with a congenital malformation, the possibility of her having a second child with a congenital malformation is one in eight. The possibility of this same malformation occurring in the second congenital malformed child is one in two. It has also been shown that once a mother has had a child with a congenital malformation, if she wishes to have more children, the sooner she has the subsequent pregnancies, the less is the possibility of there being another congenital malformed child. It has also been shown that the number of congenital malformations in older mothers is greater than in younger mothers. This type of statistical information, if properly presented and intelligently interpreted in the right places, undoubtedly might have a great deal to do in decreasing the number of congenital malformations.

One of the weaknesses in our present program in the care of the handicapped is the lack of adequate parent education. It has been said that the problem of the handicapped child is primarily the problem of the family, and that 80% of the child's rehabilitation is effected by the parents. It is my feeling that the part the parents play is the most significant single factor influencing the total rehabilitation of the handicapped child. What we as professional people do for the crippled child in reality is not as important in the total care of the child as what is done by parents and in the home. We can straighten crooked limbs, enable patients to walk who have never walked, strengthen muscles and do many other things toward the physical improvement of the child, but, if this medical care is not associated with the parents doing their part and with an acceptance of the child in the home and the community, our efforts may be almost completely lost. At the present time, not only is too little attention being given by the physician to interpreting to the parents the part they should play in the rehabilitation of their child, but also too little thought has been given to the perspective these parents may have of the future of their own child.

Once a mother realizes that she has a handicapped child there is a shock to her emotional system, especially when she fully realizes that having this child may change the whole pattern of living for her and her family. If the parents cannot make a satisfactory adjustment to having this child in the home and perform their part in helping the doctor, therapist and teacher, the chances for this child's satisfactory rehabilitation are certainly lessened. It is most important that there be established early a good physician-parent and social worker-parent relationship. The social worker is one of the most important members of the rehabilitation team in the early days of adjustment. She very often can give a more realistic and understanding interpretation to the parents than the physician. She can gently guide the parents into the paths of acceptance, adjustment, and cooperation with the doctor, nurse, therapist and teacher. This is a very important part of the rehabilitation procedure. After the parents have been shown and taught what they can and should do for their child, they must be impressed with the fact that they are the "doers" and what we "do" as professionals should only be looked upon in the light of guiding and giving assistance to them in the "doing."

Another weakness in our programs at the present time is the lack of proper instruction of the teacher of the handicapped child. Next to the parent, the teacher is the most important member of the rehabilitation team in developing a child's personality, abilities and the will-to-do. There is an urgent need to interpret to the teacher what her part should be in the rehabilitation of her handicapped children and to let her know (1) what has been done for the child before coming to her class, (2) what is being done medically during the time the child is in her classroom, and (3) what the future may hold for this child. There should be a very close association between the teacher and the parent. Good medical care may be definitely less effective without the proper cooperation of the teacher as well as the parent. Programs of instruction for the teacher along with the parent are responsibilities of the physicians, nurses and therapists in this field of work.

The Nemours Foundation has had recently its first successful parent education conference in Florida. This was planned by the parents of different types of handicapped children with the help of a committee of the Florida Children's Commission. The conference was designed to be an interpretation to the parents of the problems of crippling and what their parts should be in the handicapped child's care. The parents were speakers as well as audience. There were many small discussion groups for parents with professional leaders. There was a so-called "Street of Information" set up with each agency working with crippled children having a representative at a table or in a booth to explain what this particular agency had to offer. This was followed by a comprehensive summary of the group discussions and the whole conference. It is hoped that such a type of conference may be arranged for in Virginia in the near future.

In all crippled children's programs it should never be forgotten that the number one objective in the care of the child is total rehabilitation or the complete, or as nearly complete as possible, restoration of the handicapped to normal living. The doctor, the nurse, the therapist, the teacher, the vocational counselor, the parent and many others form a team who must work together. No one member of the rehabilitation team can do it all. Each member has his part to play. In nearly every community there are the resources for effective team play. However, these resources are not always coordinated to the advantage of the crippled child. Much is to be done in every state and community in effecting a better coordinative program for rehabilitation.

In conclusion, I can only say again how delighted I am to be included today in your dedication ceremony. This auditorium-chapel will be a constant source of pleasure and satisfaction to all of you working here with crippled children. Religious education and the spiritual development of the child will be tied in with medical care more closely than ever before, and your children with good religious foundations will develop better emotional adjustments, greater motivation and stronger personalities. This will be followed more often by successful, independent and happy living—the ultimate goal in the rehabilitation of all crippled children.

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The Use and Misuse of Antibiotics in the Treatment of Infections of the Urinary Tract

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ANTIBIOTIC preparations have largely revolutionized the treatment of urinary tract infections during the past ten years. Early reports attribute magic powers to some of these, and enthusiastic reception is accorded each new drug as it makes its appearance.

No one will deny that antibiotics have greatly changed the treatment of infections of the urinary tract. For instance, the acute fulminating infections, formerly so frequently fatal, are now readily controlled, so that a nephrectomy for fulminating pyelonephritis is no longer necessary. However, the indiscriminate use of antibiotics without adequate examination of the patient and careful determination of the type of organism producing the infection results in unnecessary expense to the patient, frequently to the masking of degenerative disease that should be recognized and corrected, and occasionally to uncomfortable and at times dangerous anaphylatic or toxic reactions.

The publicity concerning these new wonder drugs by popular science writers and the high-pressure advertising of pharmaceutical companies make it difficult for the physician to obtain a clear prospective of the value of these new preparations until their appropriate place in the therapy of infection has been determined by clinical investigation. Unfortunately, as time passes and antibiotics are used more extensively in the treatment of urinary tract infection, it becomes evident that the panacea for all bacterial infection is yet to be found.

The germicidal powers manifest in the test tubes cannot always be obtained in the patient. In the laboratory, a constant temperature and the desired pH level can be constantly maintained and a known concentration of the germicide can be brought in contact with a definite number of bacteria of a known strain.

In the patient, these facts are often variable. Furthermore, there are such antagonistic factors as necrotic tissue, foreign bodies, poor drainage, multiple strains of organisms and diminished renal function. Then, again, certain toxic manifestations are a definite deterrent to the use of some of these remedies. These toxic complications may occur, not only when the drugs are used in excess and in poorly selected cases, but also when the patient is carefully selected and the dosage well controlled. It must also be remembered that the indiscriminate use of antibiotics may lead to sensitivity which in future administration of the preparation, perhaps when much needed, may cause uncomfortable and dangerous reaction. This is probably more true of penicillin, which has, in all probability, been used with less discrimination than any other antibiotic.

Antibiotics in therapeutic amounts exert a bacteriostatic rather than a bactericidal effect upon micro-organisms. That is, they interfere with growing cellular metabolism rather than destroying the bacteria directly. Consequently, it is important when prescribing these preparations to continue their administration several days after evidence of infection has subsided. Several of the antibiotics are spoken of as "broad spectrum preparations", meaning that they are effective in a wide range of bacteria. It is well, however, to remember that in dealing with infections of the urinary tract, none of these preparations are effective against more than half of the bacteria that are commonly encountered. Therefore, the term "broad spectrum" has a limited meaning so far as infections of the urinary tract are concerned.

Wendell H. Hall[1] found that bacterial resistance to six frequently used antibiotics varied from 7% to 34%. It is also well recognized that many bacteria become resistant during antibiotic therapy. This has been particularly notable in resistance to streptomycin and the resistance of cocci to penicillin. It has also been noted that in many instances of mixed infection when the predominating organism is controlled by an antibiotic to which it is sensitive, other organisms increase in number and activity, continuing the infectious process until the condition is recognized and an antibiotic or antiseptic administered that may be effective.

Therefore, as we review the situation regarding antibiotic therapy, we note that the picture changes

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from year to year. Enthusiastic approval of some preparation is followed by a more cautious attitude as the more nearly true value of individual preparations is recognized.

The first antibiotic, penicillin, was discovered in 1929. Its successful application as an anti-bacterial agent during World War II led to extensive research in the search for other useful antibiotics. During this time numerous antibiotics have been investigated, but only 6 or 8 have been found effective in combating bacterial growth and at the same time applicable to clinical use. Chemists and other research workers are constantly on the alert and from time to time are successful in their efforts to produce more efficient and less toxic remedies. Many clinicians have added their observations regarding the activities of these new drugs. By these efforts it is now possible to determine with reasonable accuracy what may be expected from a given antibiotic in the treatment of a specific type of infection.

It is well at this time to call attention to the bactericidal armamentarium of the clinician prior to the advent of the antibiotics. Hexamethylenamine, often sold under the trade name of Urotropin, was probably the first drug used which had definite bactericidal effect. This preparation, first introduced by Nicolear in 1890, although less effective than the more recently developed urinary antiseptics, is still quite widely used. The bactericidal effect is dependent upon the elimination of formaldehyde in strongly acid urine. It was demonstrated that formaldehyde would inhibit the growth of staphylococci in 1:20,000 dilution and the colon bacillus in 1:18,000. Formaldehyde appeared in the urine 30 minutes after the administration of 15 grs. of the drug and the urine became bacteriostatic in 15% of 60 urine specimens examined when 15 grs. were given three times a day. Formaldehyde was eliminated in high concentration in specimens whose pH values were between 4.5 and 5.6. Formaldehyde was not eliminated when the urine was alkaline. The drug is most frequently administered in combination with sodium acid phosphate or ammonium chloride. 20 grs. four times a day can usually be administered several days without evidence of irritation. There are no toxic symptoms, but the prolonged administration in highly acid urine causes irritability of the bladder.

Acriflavine, Serenium, Pyridium and hexylresorcinol each enjoyed brief popularity as urinary antiseptics. It is now generally conceded that both hexylresorcinol and Pyridium exert some analgesic effect upon the inflamed bladder mucosa, but that the bactericidal effect of these drugs is not very impressive.

The next preparation to be widely acclaimed was mandelic acid. This drug is now universally recognized as a useful therapeutic agent in the treatment of urinary tract infection. By laboratory tests, Carroll, Lewis and Kappel[2] found that mandelic acid, in 0.19 to 1% solution in urine with acidity of pH 5.5 or less, was definitely bactericidal to the majority of pathogenic bacteria usually found in the urine. The more acid the urine, the less concentration of the drug that is required. Urine of pH 4.5 would in itself destroy many organisms. In their experiments, E.coli and bacillus proteus were the most easily killed. Streptococci required a more concentrated solution, while Aerobacter aerogenes and Pseudomonas were even more resistant. Clinically, the Proteus bacillus has such an alkalinizing effect on the urine that mandelic acid is not effective.

Observations of the results on mandelic acid were reported by Dodson and Odum[3] in 42 patients. They concluded that the drug was safe in the necessary dosage and when an acidity of the urine was maintained at or below 5.2 it was very active in combating infections of the urinary tract. It is more effective when E.coli is the sole effecting organism and, like all urinary antiseptics, its usefulness is handicapped by poor renal function and obstructive lesions.

Methenamine mandalate or Mandelamine is formed by the union of mandelic acid and methenamine. The drug is used on the same type of organisms that respond to the administration of mandelic acid alone, and the same highly acid urine is desirable.

The most effective agents available for use in combating urinary tract infections before the advent of the antibiotics were the sulfonamides. Early predictions as to their usefulness have been considerably modified but when properly administered in properly selected cases, the results are rarely disappointing. Pharmaceutical action of all these drugs are similar with only slight individual variation. They all form active, and inactive or conjugative forms in the blood and urine. Most of the earlier preparations, notably sulfanilamide, sulfapyridine and sulfathiazole, are now rarely used because equally effective and safer preparations have been discovered. Crystallization and other toxic manifestations are more apt to occur when large doses of the drug are given and when fluids are restricted. A free fluid intake and the administration of alkalines are helpful in preventing renal complications. The large doses administered in other branches of medicine are rarely necessary for the treatment of urinary tract

infections and it is noteworthy that few renal complications have been reported in patients that were treated for infections of the urinary tract. These drugs are excreted principally through the kidney, therefore, it is necessary to have a knowledge of the patient's renal function. Dangerous high blood levels may occur in patients with reduced renal function unless the drug is regulated accordingly.

The sulfonamides are bactericidal for most organisms pathogenic to the urinary tract. They are more effective against streptococci, staphylococci and the colon group of organisms. A few bacteria, notably micrococcus catarrhalis, streptococcus fecalis and Pseudomonas aeruginosa are not effected by these drugs. At the present time, the most acceptable sulfonamides for treatment of urinary tract infections are sulfacetimide (Sulamyd), Sulfisoxazole (Gantrisin), Elkosin, and Thiosulfil. These drugs have the advantage that they are almost without serious toxic manifestations since they are soluble in acid as well as alkaline urine.

Gantrisin and Elkosin both have a low rate of acetylation so that the therapeutically active, non-acetylated portion is excreted by the kidneys in high concentration. Goodhope found that Thiosulfil has these advantages, in addition to such a low degree of toxicity that he does not hesitate to give it to patients in whom there is a history of sensitivity to Sulfa drugs. The antibacterial spectrum of all the sulfonamides appears to be about the same.

A new chemotherapeutic agent, nitrofurantoin (Furadantin) has recently been introduced. Preliminary reports indicate that it is effective against many gram-negative and gram-positive organisms, especially those most commonly found in urinary tract infections. Carroll and Brennan found that the majority of strains of E.coli, bacillus proteus, Aerobacter aerogenes, Strept. fecalis, and Alcaligenes were susceptible to Furadantin while Pseudomonas aeruginosa was not. Furadantin has established itself as the drug of choice in treating Proteus infections. It is noteworthy that this drug shows no tendency to permit development of resistant bacterial strains *in vitro*. Furthermore, it does not appreciably reduce the fecal bacteria count so that no over-growth of intestinal tract fungi should occur during therapy. A few patients develop nausea, but no serious untoward side-effects have been noted.

Penicillin is the drug of choice in the treatment of gonococcus infection, and is also effective in urinary infections caused by the cocci group of organisms. It has no effect upon infections caused by bacilli, which probably represent 75% of infections of the urinary tract. There is considerable evidence that penicillin is losing its effectiveness in the treatment of infections caused by staphylococci. This is probably because so many of these infections are caused by surviving resistant strains. Penicillin, therefore, should not be used in the treatment for urinary tract infections as a drug of preference, but only when organisms are present, known to be affected by it. The unwarranted administration of this antibiotic not only delays appropriate therapy for the disease present but submits the patient to the dangers of possible skin rashes and fever, and also may produce sensitivity to the drug.

Streptomycin is of value in gram-negative, bacillary infections and is effective in some strains of Pseudomonas aeruginosa and organisms resistant to most antibiotics. It is the only antibiotic of value in the treatment of tuberculosis.

The rapid development of resistant strains of bacteria is probably the chief disadvantage in the treatment of urinary tract infections with this drug. If infection has not been completely eradicated in a few days with Streptomycin, one may assume that the organisms have become too resistant for effective therapy. Toxic manifestations consisting of damage to the 8th cranial nerve and occasionally renal irritation are rarely noticed in the short period of time that is usually required for the usual infections of the urinary tract. When used in the treatment of tuberculosis, the clinical advantages are usually sufficient to off-set any toxic manifestations that may occur.

Aureomycin is especially beneficial in the treatment of Aerobacter aerogenes, E.coli and Streptococcus fecalis infections. It is less effective in Staphylococcic infections and of little value in infections caused by Pseudomonas or bacillus proteus. The antibiotic causes a very acid urine which is helpful in therapy of many infections.

William T. Metzger[4] and associates treated a total of 117 urinary tract infections in adults with aureomycin. Of these, there were 62 acute cases, all but one of which showed reduction or elimination of clinical symptoms, but only in 58% were the bacteria completely eliminated from the urine. There were 54 chronic cases with relief of symptoms in 45%, and sterilization of the urine in 33%. In most instances the drug is relatively non-toxic but occasionally very troublesome cases of colitis may occur.

Terramycin is probably less toxic than aureomycin although gastro-intestinal irritation is occasionally noted. This antibiotic is effective in the same group of organisms as aureomycin and in addition may be

used to advantage in some strains of Pseudomonas aeruginosa.

Chloromycetin is effective in the treatment of most urinary tract infections. It is more effective against Proteus vulgaris than any other antibiotic and equally as effective against the coccoid group of organisms. It is well tolerated and does not cause the irritation of the intestinal tract occasionally seen in patients treated with aureomycin or terramycin. Prolonged use may cause aplastic anemia and frequent examinations of the blood should be made when it is to be continued for any length of time.

Erythromycin, a more recently developed antibiotic, is highly selected in its effectiveness, being applicable almost entirely to coccal infections. It is well tolerated and is said to inhibit the strains of staphylococcus and streptococcus which are resistant to penicillin.

Polymixin B and neomycin are both useful antibiotics but are decidedly more toxic than those previously mentioned. Their use should be confined to hospitalized patients that can be under careful observation. Both of these drugs, when given in large amounts and over a prolonged period of time, are nephrotoxic and to some extent neurotoxic. Nesbitt, Dodson, and McKenny[5] administered neomycin to 18 cases of chronic urinary tract infection, all of whom had previously proven refractory to from 1 to 5 different chemotherapeutic and antibiotic agents. Twelve of these patients had normal urine at the end of the course of treatment and eight were clinically free from infection when seen one week to nine months following therapy. Polymixin B is particularly useful in resistant strains of Pseudomonas aeruginosa.

To repeat the statement made in the second paragraph of this paper, infections of the urinary tract have been largely revolutionized during the past decade. It is often possible to use specific drug therapy against specific organisms. This improvement in therapy is largely the result of the administration of the antibiotics, but it should be emphasized that the treatment of urinary tract infections consists of more than merely ordering an antibiotic or some other urinary antiseptic. Grayson Carroll[6] has stated that in the choice of drugs for the treatment of urinary tract infections, the physician must consider first the ease of administration; second, the toxic symptoms and side reactions; third, the development of resistance of bacteria to the germicidal agent; fourth, the cost to the patient, and, fifth, the effectiveness of the preparation used. I would suggest that the effectiveness of the drug used should be put in fourth place and the cost of the drug in fifth place.

Obviously drugs that must be given hypodermically have a definite disadvantage when administered to patients who are ambulatory, both because of inconvenience and in cost to the patient. A drug with high bactericidal powers but with toxic manifestations which may cause serious inconvenience and possible danger to the patient's welfare, certainly should not be chosen over a safer, even though slightly less effective agent.

The effectiveness of the drug used must of necessity be carefully weighed against easy administration, toxic manifestation, and cost. The patient with mild urinary tract infection, causing no appreciable damage to the urinary tract, and particularly when produced by organisms of low resistance to bactericidal agents, may be treated quite effectively by less toxic and less expensive drugs, even though definitely less effective. In acute severe and fulminating infections, much more risk of toxicity must be taken and excessive cost must be given less consideration.

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Old and New Therapy for Asthma

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IN THE 1955 edition of the Physician's Desk Reference,[1] 126 different proprietary products are listed for treatment of asthma. 75 additional preparations commonly used for asthma are indexed under iodides, aminophyllin, ephedrine and antihistamines, making a bewildering total of more than 200 medications in this reference from which to choose in prescribing for asthma. Even so, this does not include recently introduced drugs, asthma powders, nor other combinations and "cures" which can be purchased over the counter in drug stores. For practical purposes most physicians either familiarize themselves with a few drugs, which they use consistently, or they try each new preparation as it comes to their attention with varying degrees of critical appraisal.

To keep abreast of the flood of new drugs and to relate them to a sound knowledge of therapeutics is an almost superhuman task at present. In order to offer the best symptomatic treatment for asthma one must decide what he expects to accomplish with treatment for each patient.

As we review the mechanism by which asthma is produced or increased, we see that purely symptomatic treatment is only the first step in therapy. The ultimate goal is to reach basic causes and to alter abnormal or unbalanced physiological processes. A modification of Bray's[2] schematic representation of factors which produce asthma illustrates this (Table 1), and emphasizes that at present and probably for some time to come, our treatment necessarily must be superficial.

If we recall the definition of asthma: dyspnea or difficult breathing, produced by bronchospasm, edema and excessive bronchial secretion—we realize that in different patients, and at different times in one patient, these three components will have very different significance. In any attack, one feature ordinarily will predominate, and should be treated first. In order to intelligently utilize all the measures now available, we can profitably scan the objects of our therapy. This will result in our retaining time proven remedies, while we incorporate new advances, yet avoid becoming completely bewildered by proprietary names and fads in treatment.

TABLE 1.

MECHANISM OF ASTHMA

Asthma is Produced or Increased by:

1. Allergic sensitivity	Various Allergens
2. Reflex bronchospasm	Foreign body Tumor Neurogenic factors Psychogenic factors Direct irritants (smoke, chemicals, etc.)
3. Infection	Local irritation Sensitivity
4. Anatomical changes	Malformations Pressure on bronchi Emphysema Unequal aeration
5. Physio-chemical changes	Electrolyte imbalance Histamine or Histamine-like substance Cholinergic agents Endocrine factors

TABLE 2.

OBJECTS OF TREATMENT

In Asthma we are Treating:	Causing:
Bronchospasm	Dyspnea
Edema	Cough
Excessive Secretion Inspissated plugs Atelectasis	Fatigue
Complications of above and Inflammation Infection	Fever Dehydration Toxicity
Anoxemia Anxiety	Anxiety Restlessness
Emphysema	Decreased ventilation

The aim in developing new bronchodilators is not only to produce this effect better, but to eliminate the need for hypodermic administration. Another object is to avoid the undesirable side effects of tachy-

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cardia, nervousness and hypertension so common after epinephrine and ephedrine.

TABLE 3

AGENTS TO RELIEVE BRONCHOSPASM

Epinephrine 1901	*Trade name*
Isopropyl arterenol	
	Isuprel
	Aludrin
	Isonorin
	Isoremin
	Norisodrine
	Nephenalin
Ethylnorepinephrine	Bronkepherine
	Butanephrine
Phenylephrine	Neosynephrine
Ephedrine 1885	
Ethylephedrine HCL	Nethamine
Methamphetamine	Desoxyephedrine
	Desoxyn
Phenylpropanolamine	Propadrine
Methoxyphenamine HCL	Orthoxine
Xanthines	
Theophyllin	
Theophyllin cholinate	Choledyl
Theophyllin methylglucamine	Glucophylline
Aminophyllin plus adsorbent	Cardalin
	Dai-nite
Khellin (Visamnin)	Ammivin
	Eskel
	Khelism

All of these new epinephrine derivatives can be given by inhalation, and most of them, orally. In general, their effectiveness is less consistent in all patients than are either epinephrine or ephedrine. By inhalation most of these drugs cause less local irritation than does epinephrine. Their overall usefulness is very great, they lend themselves to combinations of all sorts, for example, Nephenalin[4] combines the rapid actions of isopropylarterenol with the slower more prolonged effect of ephedrine and theophyllin.[5] Others are used in combinations with antihistamines and iodides.

The second group of bronchodilators, xanthine, i.e., theophyllin, aminophyllin derivatives, can be given intravenously, rectally and orally. The number of combinations in which they occur is too extensive to detail here, since they appear in the majority of oral combinations for asthma. One new development is Choledyl[6] (theophyllin cholinate) more soluble, and with less gastric irritation than aminophyllin, therefore allowing sightly theophyllin blood levels.[7] The other new modification is the addition of aluminum OH to aminophyllin to decrease gastric irritation and thus permit larger oral doses of aminophyllin, as is done in Cardalin[8] and Dai-Nite[9] tablets. This simple maneuver could be done by simultaneously using some absorbent along with any favorite xanthine compound.

The most recent addition to the bronchodilators is actually a revival of an old Arabic herbal, Khellin, which is primarily a coronary dilator. It is derived from the plant ammi visnaga. Its action is not as predictable in asthma as many other drugs, and the dose must be individualized as it has a cumulative effect in the tissues. This may partially explain the widely divergent reports of its effectiveness. Since it is an entirely different type of drug from these others, further study of its properties may lead to improved derivatives.

TABLE 4

EXPECTORANTS*—Goodman and Gilman, 1955

Steam 85%	CO_2 5-10%	
1. Sedative Type:		
Salts	Ammonium chloride, carbonate; potassium citrate, acetate; sodium citrate	
Iodides		
Ipecac		
Tartar Emetic		
Demulcents	Acacia, glycyrrhiza, sugar syrup	
2. Stimulant Type:		
Creosote	Guaiacol	Terpene hydrate
Turpentine	Pine	Eucalyptol
3. Anodyne Type:		
Codeine	Methadone	Demerol, etc

* Modified from Goodman and Gilman. The Pharmacological Basis of Therapeutics, 1955.

We turn now to the expectorants, where a glance at the list shows us these have changed very little from the pharmocopoeia of several hundred years ago. This point has been illustrated in a most readable way by Dr. W. B. Blanton in the February, 1955, issue of the *Virginia Medical Monthly*.[8] These familiar drugs continue to appear in new combinations, such as "Robitussin"[9] consisting of guaiacol, and desoxyphedrine.[5] They also are periodically revived with all the fanfare of a new discovery, as is the case during the past few years of the Gay Treatment for Asthma. As is generally known, this consists essentially of KI and Fowler's solution, to which are added small amounts of Na-phenobarbital, digitalis, saccharine, and coloring matter.[8] A sim-

ilar prescription appeared as a proprietary "Holländische" mixture in Munich more than a hundred years ago, and, according to Dr. Blanton, arsenic was used for asthma in 700 A.D. The combination is effective for some chronic asthmatics. The mode of action of the arsenic is not clearly understood. The great objection to this type of treatment is that people vary in their rate of excretion of arsenic; and, as the compound is taken for long periods of time, there frequently is chronic arsenical intoxication. The symptoms of rhinitis and cough resemble in some respects those for which the drug is given and the patients frequently increase their dosage even more. The other danger is the late development of arsenical keratoses, a pre-malignant skin reaction. This complication may come on as long as 10 to 25 years after the use of Fowler's solution. This may be of little significance to a person past middle life, but to a young person this may present a very real hazard to its use. We, personally, have seen many children with chronic arsenical poisoning, with dermatitis and high levels of arsenic in the urine, who have been on this mixture, and we feel that among the 200 other prescriptions for asthma, there must be some other which would be equally effective, and less dangerous. The other reactions to arsenic, the rashes, anemia, blood dyscrasias, renal irritation, neuritis, occur frequently enough from Fowler's solution to make it imperative to follow the patient very closely if he is on this mixture.[9,10]

Among the agents used to reduce edema and to prevent or remove excessive secretion, we find the two most important new contributions of the past twenty years, the antihistaminics, and the steroid hormones. The antihistaminics act in this fashion in asthma by virtue of their atropine-like effect in drying secretion and reducing edema. The new varieties of these drugs continue to appear, although with not quite such lightning-like rapidity as a few years ago when they were first introduced. The newer ones are more potent, hence, smaller doses, and less side effect. The other recent modification has been to develop long-acting drugs or prepare them in repeat action form, or for prolonged release.[11] Once one knows that a given antihistaminic is effective for a patient—and there is wide individual variation in the response to these drugs—one can change to a long acting form of the same drug for day-long control. Experience bears out the initial impression that these drugs are less effective in asthma than in other types of allergic reactions. Asthmatic children usually respond better than do adults, but even with children much of the benefit of antihistaminics is probably due to their sedative effect.

The use of detergents in aerosols as a means of thinning and removing bronchial secretions is another development of recent years. Improvements continue in the nebulizers and attachments for comfortable inhalations of aerosols. Alevaire® (Triton A-20) is one of the most widely used.[12] It serves as an excellent vehicle for bronchodilators, as well as antibiotics. How much liquefaction of secretion actually is produced by the detergent is hard to measure objectively. Clinical studies indicate that they materially thin secretions and permit their removal with less effort by coughing.[13]

Tryptar,® the enzyme trypsin, is also used for the same purpose, both in asthma and chronic pulmonary infections.[13,13a] Conflicting reports of effectiveness are more equally divided, as certain workers believe it causes changes in the bronchial mucosa,[14] with little change in sputum viscosity, others report allergic reactions to it.[15]

It has the disadvantage of requiring more precision in its use, and is not adapted to uncooperative patients such as little children, and it is more expensive than the detergents. Streptodornase has been used in this same way, but not widely, and is adapted only to certain cases. Pancreatic Dornase[13b] is another preparation recently introduced for aerosolization to liquefy secretions.

The most significant advance in the therapy of asthma and allergy in the past 10 years is the introduction of the steroids.[16] In spite of the fact that a complete understanding of how they work in asthma has not yet been reached, we know that they rapidly reduce inflammation, and therefore are the most potent drugs we have for this purpose. The details of dosage are so clearly set down in the literature that they do not need to be repeated here, except to stress that dosage is determined by the severity of symptoms and not by the size of the patient. Laboratory studies indicate that ACTH, oral Cortisone, Hydrocortisone, and intravenous Hydrocortisone all require at least 4 hours to reach their peak effectiveness, and begin to wane after that, so that dosage by these routes should be spaced no longer than every 8 hours. Intramuscular Cortisone does not have much effect before 24 hours after administration and is effective 48 hours after the last injection. This means that in treating patients one should have oral doses of cortisone and hydrocortisone no more than 8 hours apart, and, if the patient does well on 1 dose every 12-24 hours, then he probably could be maintained on a smaller total dose at more frequent intervals.

If one contemplates long term therapy for asthma one must weigh the advantages of oral medications with adrenal cortical hormones which may suppress adrenal function, against the disadvantage of discomfort and inconvenience of intra-muscular injections with adrenocorticotropic hormone which stimulates adrenal function. As time goes by this becomes an increasingly important decision to make. Each case must be considered individually. We have been impressed with several children we are currently following, who have been on cortisone or hydrocortisone for long periods who do not tolerate periods of stress well. We are trying to change them to ACTH (Corticotropin) or at least to give them brief courses of this hormone for stimulation.

In spite of the wonderful assistance these drugs give in emergencies, they have familiar serious side effects, so that we believe they should be reserved for emergencies and for severe asthma refractory to an adequate trial of conventional therapy. Among the reactions we have encountered in children are hypertension, one cerebral accident with death, severe allergy to ACTH, perforated duodenal ulcer in a 4 year old, gout in a 12 year old boy, and later precocious breast development in this lad. Two other cortisone treated children died suddenly after many months of treatment, one while taking 25 mgm. daily, and the other 2 weeks after it was discontinued. We could not definitely establish that cortisone played any role in either of these fatalities, but in one child, acute adrenal insufficiency may have been a decisive factor. Personal experiences such as these serve as a balance to over enthusiasm and indiscriminate use of these valuable and frequently life saving drugs.

New forms of steroids are being developed and presented to the profession. One, 9-a-fluorohydrocortisone has not proven valuable in asthma, and causes too much sodium retention to be desirable in asthma. Meticorten (Metacortandracin) is another variant which as yet is not established for asthma, but which may prove useful, as it seems less apt to cause hypertension and electrolyte imbalance. In its effectiveness for rheumatic conditions it appears to have five times the potency of cortisone.

The anxiety which is an integral part of asthma deserves special note, since, if untreated it may nullify all other efforts. The sedatives which are currently used for general relaxation and bronchial relaxation are basically the same ones which have long been known. These include opiates, ether, alcohol, barbiturates, chloral hydrate, bromides, paraldehyde. Morphine and its close derivatives should *not* be used for asthma. Several carefully studied series of fatal cases of asthma have demonstrated that death followed very closely after administration of morphine, probably due to depression of the respiratory center. The other objection to morphine is addiction. In my opinion, this same holds true for Demerol, although this drug is extensively used for asthma. The barbiturates are better suited for asthmatics, although they, too, have some depressing effect on respiration, and may produce sensitivity reactions. Variations of the barbiturates continue to appear, and this permits a wide choice of sedative to suit the individual patient and to avoid habituation, sensitization and tolerance to the drug.

Among the new non-barbiturate sedatives are several very interesting for asthmatics. "Romilar" (dextro-methorphan hydrobromide), a non-narcotic, has also a particular antitussive effect.[16] Methylparafynol, Dormison[r], and Carbromal[r] (bromdiethylacturea), Doriden[r] (glutethimide), are recently introduced non-barbiturate sedatives. Another type of relaxant, introduced primarily for its hypotensive action is Rauwolfia, or Serpasil[r]. Charlton and Hansen are currently reporting on its use in a series of asthmatics whose asthma was increased by tension.[17] They found it effective in this group of patients. Further experience with it in this connection will bear watching.

We turn now to several other recently introduced drugs which do not lend themselves so easily to a basically pharmacological or physiological classification. While their origins stem from older drugs, they have been presented as new treatment for asthma. One of these is Phthalamaquin or aureoquin, recently developed by Geschicter.[18] This consists of a quinine derivative combined with the antihistaminic thenyl pyramine. The general importance of quinine has dwindled rapidly in the past 20 years, with the control of malaria, but in the past, quinine, too, was used for asthma. This modern derivative of quinine has a bronchodilating effect in animals, and is found to be selectively concentrated in lungs and liver. Geschicter prescribes phthalamaquin in conjunction with aminophyllin hydroxide continuously for several months. Enthusiastic reports have appeared, particularly for its long lasting effect in refractory asthma, with freedom from symptoms for months and years after medication had been discontinued. Our personal experience in children with these drugs, which were supplied to us by Dr. Geschicter, has not been as uniformly impressive as his reports based on a larger number of patients. We have found no intolerance to the drugs in a small group of care-

fully followed patients, but only 1 of 11 children had complete relief of asthma. Seven showed moderate improvement, and two were unimproved, while one stopped prescription after one week. Our patients were selected from among the most severe chronic asthmatic in our practice. Again, this drug needs more critical investigation.

Piromen[r] is another of the many asthma remedies. It is a bacterial polysaccharide derived from B.Pyocyaneus (Ps. aeruginosa). It is said to be non-antigenic, but anaphylactic reactions have been reported following its use.[19] Originally it was thought to be effective orally, after the individual dosage requirement was established by intravenous route. Intramuscular or subcutaneous dosage was also advised. Several conflicting reports have appeared regarding its usefulness in asthma.[20] Perhaps because my own experience with it has been disappointing, I feel that the most critical evaluation of the drug was done in the series which reported inconclusive results. It has an effect resembling ACTH in some respects, in that circulating eosinophiles drop for a few hours after an injection. It has no reported, nor have we observed any, effect, on blood pressure, fluid balance, or blood sugar. It is an excellent pyrogen, but sub-pyrexial doses are thought to be the correct ones for treating allergy. It is an intriguing type of therapy, which is definitely unproven, but which may find its place in certain allergic conditions.

Another unproven remedy for asthma is nitrogen mustard. Since this drug has a cholinergic effect of producing bronchorrhoea, it also has a powerful cytotoxic action, and may alter enzyme relationships. Because of its toxicity, it has had limited use, and will need much more evaluation before any opinion can be made of its possible merits.[21]

This discussion to date has largely been a review of the various drugs which have been and are used in asthma, attempting to show how new and currently used drugs are related to some of their predecessors.

As indicated in our early diagrams, simply giving symptomatic medication is not adequate for treating asthma. The complications must be treated, the principal one being infection, with its train of debilitating features, while the other one is lung collapse. The development of atelectasis which does not clear up spontaneously for several days, or even requires bronchoscopy during an attack of asthma is a very frequent occurrence. Perhaps all of you are aware of this but I have the distinct impression that I see this more frequently in children than formerly. For example, I am able to recall 12 asthmatic children with one or more episodes of atelectasis whom I am now currently following. Some have required heroic treatment with bronchoscopy, and some have cleared spontaneously with only conservative measures such as steam and Alevaire[r]. In children, atelectasis is one of the commonest reasons for asthma to persist in spite of adequate medication.

When we review the advances in asthma therapy in the past 50 years, we find that we have antihistaminics, steroids, detergents, antibiotics, sulfonamides, improved bronchodilators, variants of the xanthines, and innumerable sedatives. We have many technical improvements in the administration of physical treatment, such as oxygen and inhalation therapy and bronchoscopic techniques. Our desensitization programs are a development of the past 50 years, and while we have not mentioned them in this discussion, thanks to immuno-chemical advances, we are on the threshold of having vastly improved potent specific allergens which will remove much of the confusion and mysticism from the "allergy shots".

We are sufficiently aware of the all prevading importance of psychogenic factors in asthma to assign to them their proper role and to do what we can for them. The other "cure" for asthma which Dr. Blanton stressed in his historical presentation as being a venerable remedy through the centuries, "a long voyage" and one to which we still have frequent recourse, is even simpler in these days than ever before.

Taken in its entirety, the amalgamation of the old and new therapy for asthma provides our patients with much relief from their distress. In spite of this, a survey of our armamentarium leaves us humble in realizing that much remains to be learned about the basic problems of asthma and that further advances lie only in that direction.

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Why Injections Hurt.

Practically everyone at some time or another has had an injection and practically everyone knows it hurts sometimes. It's not just the jab of the needle as it punctures the skin that causes the trouble, according to Dr. Janet Travell, of Cornell University Medical College. Her report on injection pain appeared in the June 4th Journal of the American Medical Association. There are three reasons why the injection hurts. One is mechanical—the needling, or sudden distention of tissues from rapid injection of fluid. The others are irritation—due either to antiseptic on the skin or to the injected fluid itself, and abnormal sensitivity of the skin or the muscle.

She strongly disagreed with the notion "that some pain is to be expected from the mere jab of the hypodermic needle," and said "given a non-irritant solution" injections can be made painless. The best way to eliminate skin pain is by cold. Years ago an ice cube helped; now sprays of powerful cooling agents that do not themselves irritate can be used. Muscle pain can be avoided by testing for and avoiding "trigger areas" that are especially sensitive, or by using a local anesthetic in the injected fluid. This may also help relieve pain from irritant solutions.

On questioning a professional audience, Dr. Travell found only one in a hundred had never had an injection, and only about ten per cent said they did not dread the next one.

Recent Trends in the Treatment of Carcinoma of the Upper Respiratory Tract

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CANCERS of the head and neck have been estimated to comprise about 12 to 14 per cent of those of the entire body. Our comments will be related to about one-fourth of this group, namely, squamous cell carcinoma of the upper respiratory tract involving the nasal passages, nasal sinuses, nasopharynx, oropharynx, hypopharynx, and larynx. It is in this division that we are mainly interested. The treatment regime to be commented upon is that which is generally followed in the Department of Otolaryngology at the University of Virginia.

Fig. 1. Epidermoid carcinoma of maxillary and ethmoid sinuses. Radical resection of maxilla and ethmoid labyrinth, with exenteration of orbit. Surgery followed by irradiation. Well after five years.

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Advances in therapy have been largely in the field of more extensive surgery, in an effort to extirpate all of the tumor and thus effect a cure, either at the expense of or in conjunction with irradiation therapy. It has also become apparent that palliative surgical procedures are often beneficial in prolonging the useful life of the patient with far advanced neoplastic disease, and add to his or her comfort in the later phase of the disease.

Although the trends are toward more extensive surgery, the future use of supervoltage irradiation, with its favorable effect upon the surface areas and increase in efficiency by the delivery of deeper cancerocidal dosage, may alter the pendulum swing now favoring surgery. The addition of radioactive isotopes to the armamentarium of therapy may also do much to

Fig. 2. Subtotally resected maxilla, including carcinoma.

influence such an opinion. Neither has been available to us as yet for treatment purposes.

Little tangible advance in the control of squamous-cell carcinoma by biologic or medical means may be demonstrated at this time. We have used Nitrogen Mustard (HN_2) and similar compounds in the therapy of patients with advanced squamous cell carcinoma of the upper respiratory tract, without significantly favorable results. Possibly, pain has been lessened somewhat, particularly in those patients with osseous metastases. With respect to comfort, one must mention the merits of the drug, Chlorpromazine (Thorazine) in the treatment of carcinoma cases. By its potentiation effects in combination with narcotics and its ability to create a sense of well-being, it has proven to be of real value. Also, Chlorpromazine has been successful in controlling nausea and vomiting, due to x-ray irradiation and following nitrogen mustard administration.

The advances in surgery may be attributed to a number of factors, such as the improvement in knowledge concerning anesthesia and nutrition, the availability of blood for replacement purposes, antibacterial drugs, and a better understanding of the cause and the routes of extension of uncontrolled cancer.

Much credit should be given to those who, in recent years, have accomplished so much in the development of vascular surgery. The use of freeze-dried homografts and plastic materials, such as orlon, to replace cancer-invaded major vessels, e.g., the carotids, will undoubtedly eliminate one of the barriers in the effort to totally eradicate primary and metastatic carcinoma. The increased use of skin grafts as wound dressings, to hasten healing and minimize scarring, has aided materially in hastening

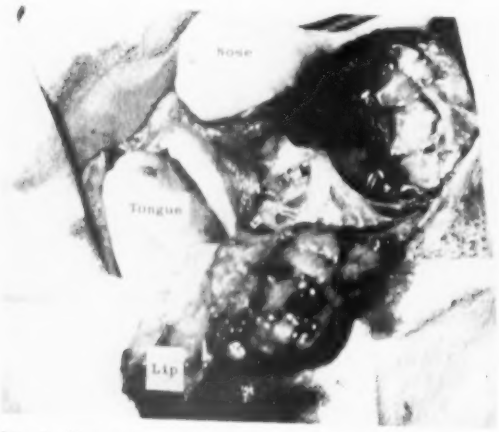

Fig. 3. Bloc resection of left ethmoid labyrinth with evisceration of orbit for epidermoid carcinoma. Resected specimen shown in following illustration.

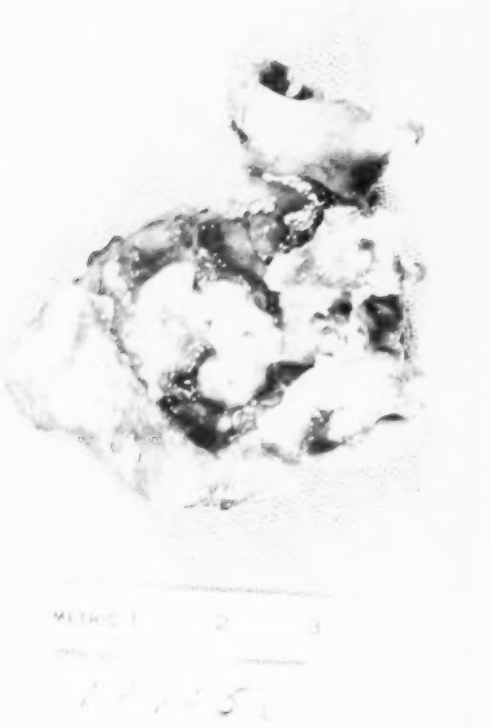

Fig. 4. Bloc resection of ethmoid labyrinth, including epidermoid carcinoma in center of specimen.

rehabilitation. This is particularly applicable in surgery for intraoral and nasal sinus cancer. The advancements in the art and science of prosthetics, intraoral and facial, such as the development of such prostheses as dentures, ears, noses, and eyes, have been very helpful, by influencing the patient in the acceptance of extensive surgery, and also by influencing the surgeon in urging the acceptance of this treatment.

Finally, one must note the increased interest shown in larger groups of physicians and the improved training in the treatment of cancer of the head and neck. The obvious advantage of teamwork among the various specialists, in order that all might receive maximum benefit, should be apparent. Some limited competition among the various groups, for the obtainment of better results, adds zest to the program and contributes to improved care of the patient.

Contraindications to surgery for carcinoma of the upper respiratory tract are few. They may be listed as follows:

1. Distant metastases, as in the osseous or pulmonary system; and, even here, palliative irradiation

Fig. 5. Epidermoid carcinoma of right nasopharynx. Extension to cervical nodes. X-ray irradiation therapy. Possibly later removal of cervical nodes if recession is incomplete clinically.

and surgery may be beneficial in adding to the comfort of the patient.

2. Systemic disease of such a nature that a surgical procedure would definitely result in the immediate demise of the patient, or a disease so advanced that the anticipated longevity of the patient is measured in weeks.

3. Involvement which is so advanced and extensive, anatomically, that a surgical procedure would leave the patient in a condition in which proper care would be impossible, or in one so insufferable that he could not live with himself because of the disfigurement and other disabilities.

Palliative x-ray treatment is always offered, although we feel that radiotherapy aggravates the discomfort of the patient without appreciably prolonging the survival period, particularly in some cases of advanced epidermoid carcinoma of the laryngopharynx and oropharynx. However, as we are occasionally surprised by a favorable response, we continue to advise this type of therapy, always in hopes of obtaining such a result.

We would like, now, to consider specifically some of the methods of treating carcinoma of the upper respiratory tract.

Nasal and Paranasal Cavities.—The vast majority of these cancers arise in the maxillary sinus, and are seen by the physician, primarily, in a late stage of the disease.

These patients are treated by bloc surgical extirpation of the tumor-bearing bone and soft tissue. Electrosurgery is used on the marginal areas. Surface skin and the eye are sacrificed when involved, or when any doubt exists as to the involvement. Exposure of the dura is often necessary; however, this causes no concern. The external carotid arteries are not ligated. The rare cervical node extensions are removed, en bloc, by neck dissection. The surgical procedure is followed in 14 to 16 days by x-ray irradiation. Even in the event of clinical and radiologic evidence of invasion of the tissues of the pterygomaxillary fossa, or osseous involvement of the base of the skull, surgery is advised. Palliative surgery, here, has real merit in the prevention of a foul-odored, bleeding, painful, ulcerative, facial mass, which creates a situation intolerable to the patient and those in the immediate environment.

The use of skin grafts and prostheses promotes rapid healing of the wound. Early fitting of prostheses improves speech and ingestion of food, thus greatly benefiting the morale of the patient.

We feel confident that in following this plan of therapy, we are increasing the comfort, useful lon-

Fig. 6. Carcinoma of tonsil and adjacent pharynx. Too extensive for surgical removal. Treatment of choice: palliative irradiation.

Fig. 7. Carcinoma of hypopharynx: left piriform sinus. Treatment of choice: total laryngectomy and partial pharyngectomy, plus unilateral neck dissection.

gevity, and survival rate of persons in this category.

Nasopharynx and Cervical Nodes: Here again, the discovery of the tumor is usually late. Cervical nodes are included in this group, for so often there is gross involvement present when the case is first seen. Since all of the malignancies of the nasopharynx are comparatively inaccessible surgically

Fig. 8. Extrinsic carcinoma of the larynx, involving epiglottis. Treatment of choice: total laryngectomy with neck dissection. Neck dissection, opposite side, 5 weeks after.

many are radiosensitive, radiotherapy is the treatment of choice in controlling the primary lesion and cervical node extension. X-ray irradiation is given to the nasopharynx and to the neck regions, regardless of the absence or presence of clinical involvement of this latter area. If, after tolerance to x-ray therapy is reached, recession of the primary lesion is not complete, then further irradiation with contact radium or interstitial radon is administered.

In the case of persistent cervical nodes after initial irradiation, further treatment of this type has been so unsuccessful that we are now considering seriously surgical removal of the cervical nodes, provided the primary lesion has receded completely and there is no evidence of distant metastases or osseous involvement adjacent to the primary nasopharyngeal lesion.

Fig. 9. Carcinoma of right vocal cord. Too extensive for local excision or irradiation. Treatment of choice: total laryngectomy with neck dissection. No significant sub-glottic extension.

Oropharynx: In this category, discussion is limited to carcinoma of the tonsil tissue, plus that of the pharyngeal wall immediately adjacent to the pharyngeal tonsils. Diagnosis should and could be, as a rule, made earlier in this group, in view of the accessibility of the area for examination.

The treatment of this type is primarily irradiation, as in the recommended therapy of similar lesions of the nasopharynx and cervical lymph nodes. However, since the results are so very unsatisfactory, particularly in the cases of well differentiated squamous cell carcinoma, there is a definite trend to attempt removal of the primary lesion and peripheral cervical nodes by continuity surgery. No difficulty is encountered in the removal of the cervical tissue,

but the extirpation of the primary lesion and adjacent tissue (partial pharyngectomy) offers real problems, especially in obtaining an adequate margin and in closing the wound, whether primarily, or by a secondary plastic procedure.

Irradiation remains the therapy of choice in the lymphomas.

Fig. 10. Total laryngectomy. Epidermoid carcinoma, fairly well localized to right vocal cord. Slightly too extensive for local excision. Also possible candidate for x-ray therapy in lieu of laryngectomy.

Hypopharynx.—These lesions are in relatively "silent areas", and early diagnosis is practically impossible; consequently, carcinoma of the hypopharynx is seen primarily in a late stage of the disease, as a rule. Anatomically, this classification includes lesions of the pyriform sinuses, the lateral and posterior pharyngeal walls, and the very base of the tongue. As the treatment is essentially the same, we will include in this discussion the superior extrinsic carcinomas of the larynx, denoting those cases in which the neoplasm involves the false cord regions, arytenoids, aryepiglottic folds, pharyngo-epiglottic folds, and epiglottis.

Formerly, in the event that the lesion could not be circumvented by simple laryngectomy it was considered inoperable and radiation therapy was instituted. In view of the lack of success with this type of treatment, we now consider curative or palliative surgery as being the therapy of choice. Irradiation was given fair trial and found to be unsuccessful.

Very seldom may the neoplasm be removed by partial pharyngectomy only. In the vast majority of the cases, a laryngectomy is also necessary, even though the larynx may not be primarily involved. This procedure is required to obtain proper exposure of the neoplasm and closure of the wound. Also, a larynx crippled by adjacent radical surgery becomes a liability because of cough, dysfunction in deglutition, and persistent pulmonary infections. Obviously, if the larynx *per se* is involved, its removal is mandatory. In the event of extension to the upper esophagus, the procedure becomes a partial pharyngo-esophagectomy plus laryngectomy.

The removal of the primary lesion is accompanied by a neck dissection in continuity on the side of obvious cervical node involvement; or, if adenopathy is absent, a dissection on the side of the greatest advancement is performed. If the primary lesion is believed to have crossed the mid-line, a second neck dissection upon the opposite side, regardless of the presence or absence of recognized nodal involvement, is carried out, after an interval of four to six weeks.

Primary closure of the wound is always attempted and is usually successful. However, if this is not possible, then one or two methods of closure may be attempted, by utilizing free skin grafts attached to patterned metallic mesh or secondarily constructed skin flaps and tubes.

Bilateral obliteration of the jugular vein system of the neck, if an adequate period of time is permitted between operations, may be carried out with impunity. If a pharyngocervical fistula, which is not uncommon, does not develop after operation, it is surprising how rapidly these patients become ready for discharge from the hospital, and many for early return to their former occupations.

Larynx.—Early diagnosis of carcinoma of the intrinsic larynx is possible and often accomplished. For some years, therapy of cancer of the larynx was considered as being almost entirely surgical. However, in recent years, evidence is mounting that radiotherapy may well become the treatment of choice for selected individuals, depending upon the location of

the tumor, age, and occupation of the patient. Certainly, lesions that qualify for local excision by an endolaryngeal procedure, or by laryngofissure (thyrotomy and excision), are also suitable for x-ray irradiation, particularly in the aged individual and one whose livelihood depends, to a great extent, upon a good voice. We have seen excellent results from irradiation, manifested by complete clinical disappearance of the cancer and a return of normal voice, in cases of pure cordal carcinoma who have been under observation for a period of from four to five years. If neoplastic activity recurs, then this group will be considered for nothing less than widefield total laryngectomy.

In the event that the laryngeal lesion is too extensive for local excision but still fairly well confined to the true cords, then there is a trend to perform the widefield total laryngectomy (pan-laryngectomy) which includes the strap muscles, tissues of the pre-epiglottic space, and hyoid bone rather than the former more limited type of laryngectomy. There is greater assurance as far as margin is concerned, and the patient's disability is unchanged by the widefield method.

Should the lesion extend posteriorly, involving the arytenoids, and upward to the false cord areas, or definitely sub-glottic, in view of the increased facilities for lymphatic extension, a neck dissection on the involved side has gained favor. If gross involvement of the cervical nodes is manifest, then obviously pan-laryngectomy with neck dissection is mandatory; but even in its absence there is a tendency to perform this procedure, in view of the fact that often involvement of the lymph glands is demonstrated upon microscopic examination, post-operatively. As in neoplasms of the hypopharynx, if the lesion crosses the mid-line, then neck dissection on the opposite side is considered, but not with the same degree of resolution as in the hypopharyngeal ones.

Our results following irradiation, in these more extensive cases of the extrinsic larynx, have been far from favorable; consequently, surgery is the therapy of choice. In our clinic, irradiation for a localized cordal lesion is permissible; for anything more extensive, surgery is advised.

Removal of the larynx does not produce the disability that one would expect. The majority of these patients are able to develop the smooth, pharyngeal speech which is even more satisfactory than the explosive, hesitant, esophageal speech, previously taught.

At one time, those cases of involvement of the trachea below the usual site of the tracheostomy (1-5 cartilaginous rings), or recurrent neoplasm below the site of the present tracheostomy, were considered rather hopeless. Now, however, the thoracic surgeons have come to our aid by splitting the sternum and establishing a trans-sternal tracheostomy at a lower level, thus permitting resection of the involved trachea.

Summary

Comments have been made upon the recent trend in treatment of the more common squamous cell carcinomas of the upper respiratory tract. In our particular group, palliation and pessimism are yielding to improved curative measures and optimism. This has been accomplished by the ability, for many reasons, to perform more extensive surgery in the attempted extirpation of the neoplasm and, to a lesser degree, by the developments and improvements in other methods of treatment, such as irradiation and biochemical therapy.

104 East Market Street.

New TV Shows This Fall.

The fall schedule for two network medical television programs being produced with the cooperation of the American Medical Association will get started in September. First, Ciba's new "Medical Horizons" show, a half-hour weekly TV series will be premiered over the ABC-TV network September 12, from 8:30 to 9 p.m. CDT. This documentary series will promote the American way of medical life by presenting specific accomplishments in the field of medicine as exemplified by the teamwork of modern medical research, education and practice. Featured will be live telecasts from medical institutions and research centers throughout the country.

The first of six shows in the 1955-56 series of "March of Medicine" programs, presented by Smith, Kline and French Laboratories, will be telecast, September 20 over the NBC-TV network. This show will replace Armstrong Cork Company, "Circle Theater," at 9:30 p.m. EDT.

A Fatal Case of Pseudomembranous Enteritis Following Tetracycline Therapy

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Roanoke, Virginia

ATTENTION has been called in the current literature to the increasing incidence of post-operative pseudomembranous enterocolitis.[1] It has also been suggested that the increasing incidence is related to an increase in antibiotic resistant micro-organisms as a result of the universal usage of these drugs. This condition has been reported in association with many of the antibiotics but to our knowledge it has not been previously reported following the use of the latest used broad-spectrum antibiotic, tetracycline.

Recently, one of us with Trout[2] reported on 100 surgical patients treated with tetracycline and concluded that it was a good antibiotic to use in preventing and treating surgical infections. We found that only five per cent of the patients on this drug developed untoward reactions. There were two cases of mild skin rash and one mild exfoliative dermatitis. There was one case of severe but not fatal diarrhea. We cultured E. coli and Aerobacter aerogenes from the stools of this patient but no staphylococcus. Since this report we have had an unfavorable experience which we think should also be brought to the attention of physicians using tetracycline.

Case History

Mr. G.C.A., white male, age 52, was admitted to the Jefferson Hospital on 1/12/55. About 48 hours before admission he first experienced lower abdominal pain. Because of this he took a laxative and had several bowel movements. The last movement was 24 hours before admission. Since the onset, the pain had been gradually increasing in intensity and was localized to the right lower quadrant. There was marked involuntary muscle spasm over the entire abdomen.

The remainder of the physical examination was negative. White blood count was 16,100 with 92 per cent hemoglobin (15.4 grams). He was carried to the operating room immediately after having been seen by the surgical service. When the peritoneal cavity was opened about two ounces of pus gushed forth. The appendix was found to be perforated at its tip. There was a generalized peritonitis. A routine appendectomy was performed with double inversion of the stump. 600,000 units of penicillin and one-half gram of streptomycin were placed in the peritoneal cavity. A drain was placed down to the peritoneum but not into the peritoneal cavity. The patient was given 500 mg. of tetracycline intravenously immediately. A Levine tube was inserted and hooked to suction.

500 mg. of tetracycline twice a day were given on the first, second, and third post-operative day and 500 mgms. once a day on the fourth post-operative day. He was given 1½ ounces of castor oil the day after the operation and the following day he was given an enema which was effectual, and his nasal gastric suction was discontinued. The fourth post-operative day he began to have loose stools and mild nausea. At first we thought the diarrhea was just over-coming of a mild paralytic ileus. He had some mild distension and because of this we had given him an ampule of 1/2000 prostigmine with a rectal tube every three hours. It was our feeling that the diarrhea was beneficial until the stools became so frequent they were debilitating. On the fifth post-operative day he was given two doses of 250 mg. of tetracycline by mouth. Because of vomiting this oral medication was discontinued, a Levine tube reinserted and 500 mg. of tetracycline mixed in with his intravenous fluids was given once that day. Then, since the patient's condition still seemed to be deteriorating, he was given 4 ml. of combiotic (penicillin 800,000 units and streptomycin 1 gram). His abdomen became greatly distended and his stools appeared to contain necrotic mucosa. His temperature went to 103 degrees, and early in the morning of the sixth post-operative day he went into shock. An electrocardiogram was negative. He was given vigorous supportive therapy consisting of intravenous fluids, dextran, blood, mephentermine sulfate, cortisone, and l-norepinephrine plus one million units of penicillin by intravenous drip. The patient's blood pressure finally came up to normal levels. We were afraid that the appendiceal stump had blown out, therefore, we decided to explore him again. Through a right rectus incision, the abdomen was

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opened. The appendical stump was intact but the small bowel was tremendously dilated. An unsuccessful attempt was made to decompress it. When the suction tip was inserted into the small bowel it became clogged with yellowish white strands of material. This material was so abundant that it was impossible to decompress the bowel with either a catheter or a suction tip. Nothing definitive could be done. It was our feeling that the patient had a severe toxic enteritis and paralytic ileus. In spite of intensive supportive therapy, the patient died three and one-half hours post-operatively, six days after his first operation.

Autopsy showed the peritoneal cavity to contain 200 cc. of cloudy yellow fluid. The loops of small bowel were markedly distended and arranged in a stepladder fashion. Many were matted with fibrinous adhesions. The appendical stump was tight and healing, and the operative wound in the lower jejunum was tight, but the bowel was hemorrhagic for a distance of 10 cm. due to trauma at the second operation. There was ulceration and sloughing of sheets of mucosa throughout the jejunum and some sloughing and membrane formation in the ileum. The bowel contained thin brown fluid and shreds and sheets of membrane and mucosa. The large bowel contained similar matter but its mucosa was much better preserved. There was a pocket of green pus between two loops of terminal ileum which appeared to be older than elsewhere and, in fact, the bacteriology of this pus was different.

There was no evidence of generalized bacteriemia. The lungs showed only congestion and edema. The brain showed edema. There were no micro-abscesses. Sections of the jejunum showed marked necrosis of the mucosa with heavy neutrophilic infiltration. The submucosa showed congestion and a heavy round cell and plasma cell infiltration. The outer layers of the jejunum showed marked congestion and a slight round cell infiltration. The ileum showed a milder but similar process without necrosis. The colon showed inflammation in the serosa only.

Bacteriological studies showed the presence of a pure culture of Beta hemolytic Staphlococcus albus in the peritoneum and lumen of the bowel. The pus pocket at the terminal ileum contained Staphylococcus aureus and Alcaligenes fecalis. The sensitivity studies showed the Beta hemolytic staphylococcus albus to be resistant to tetracycline, oxytetracycline, polymyxin B, penicillin, dihydrostreptomycin and chlortetracycline. It was quite sensitive to erythromycin, chloramphenicol, bacitracin, and furadantin.

Discussion

Pseudomembranous enteroditis has been known since Finney reported the first case in 1893 following a gastric operation, but there has been a definite increase in the past five years. This increase in the incidence of this disease is thought to be coincident with the increase in the appearance of antibiotic resident strains of Staphylococcus aureus. Speare[4] states that in practically all recent reports of these cases pure cultures of strains of Staphylococcus aureus resistant to penicillin, streptomycin, oxytetracycline, and chlortetracycline have been found in the stools and intestinal tracts of these patients. In most cases the normal intestinal bacterial flora has been absent or depressed. Therefore, it is the feeling that the etiology of this frequently fatal complication is the massive invasion of the intestinal mucosa by antibiotic resistant strains of staphylococcus and by the absence of the normal flora known to act as an inhibitory influence on the growth of the staphylococcus.

The condition has been reported chiefly in patients following an abdominal operation, but has been reported even when not preceded by an operation.[5] However, the usual clinical picture is that of a patient who has successfully withstood an abdominal operation and who has done satisfactorily for a few days. He then begins to run a low grade fever and have abdominal pain. Nausea, vomiting, and severe diarrhea then ensue. The temperature and pulse became elevated and shortly thereafter the patient goes into shock. He may respond for a while to vigorous supportive measures, but usually he succumbs in a period of hours or days. Generally before the patient dies, the diarrhea stops because of increasing paralytic ileus. These patients usually have some abdominal distension and generalized abdominal tenderness. Consequently, it is often hard to distinguish this condition from other post-operative abdominal emergencies. It must be distinguished from a leaking anastomosis, intestinal obstruction, blow-out of the appendical stump, etc. This can be done only if the condition is constantly kept in mind.

At autopsy, the findings are those of disease that can involve the entire gastrointestinal tract from the lower esophagus to the rectum. The small bowel is more frequently involved than the large bowel. It is usually found dilated and containing large amounts of cloudy yellowish-brown fluid. When the bowel is opened, the mucosa is found to be denuded and there are strands of gray or brownish-green diphtheritic membrane partially attached to the denuded

bowel or floating loose in the liquid contents.

On microscopic examination, there is usually necrosis and polymorphonuclear leukocytic infiltration of the mucosa. The submucosa is engorged and infiltrated with lymphocytes and plasma cells. The muscularis and serosa are only rarely involved and rupture is uncommon.

In the past, the following drugs or combinations of drugs have been reported in connection with this disease: chlortetracycline, oxytetracycline, chloramphenicol, penicillin and streptomycin, and sulfathalidine and streptomycin.[1] To our knowledge tetracycline, the newest of the widely used broad-spectrum antibiotics, has not been reported in association with pseudomembranous enteritis.

Most of the cases in literature have reported Staphylococcus aureus to be the causative organism. In our case we found the pathogenic organisms to be beta hemolytic Staphylococcus albus. Otherwise, the clinical and pathological pictures were identical to those previously reported.

This case serves again to remind us of a potential danger in using any broad-spectrum antibiotic. It shows particularly that pseudomembranous enteritis can occur in connection with tetracycline therapy, a condition previously unreported.

To combat this particularly serious complication, Speare[4] has suggested that whenever diarrhea develops in a patient treated with antibiotics, a stool smear should be immediately examined. If gram-positive cocci are found the antibiotics being used should be immediately withdrawn and erythromycin substituted until sensitivity tests are completed. We feel that this is a reasonable regime and should be instituted whenever one suspects this condition.

SUMMARY

Pseudomembranous enteritis, although reported in the pre-antibiotic days, is increasing in incidence with the widespread use of the broad-spectrum antibiotics. The condition is usually thought to be due to the elimination of the normal bacterial flora of the intestinal tract, allowing an over-growth of Staphylococcus aureus. It has been reported previously following use of chlortetracycline, oxytetracycline, chloramphenicol, and penicillin-streptomycin and sulfathalidine-streptomycin combinations. This report is unique in that it presents a case which occurred following treatment with the newest broad-spectrum antibiotic, tetracycline. The case differed also in that the causative organism was hemolytic Staphylococcus albus.

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New Pamphlet Series in Sex Education.

A series of five new pamphlets covering all aspects of sex education has been prepared and is now being distributed by the National Education Association and the A.M.A. Bureau of Health Education.

The pamphlets, selling for 50 cents each or $2.25 a set with discounts applying to quantities, were prepared by Marion O. Lerrigo, Ph.D., and Helen Southard, M.A., both of New York, with Milton J. E. Senn, M.D., New Haven, Conn., serving as medical consultant.

Titles of the new series and the period each covers follows: "Parents' Privilege," for parents of young children of pre-school and early school age; "A Story About You," for children in grades 4, 5, and 6; "Finding Yourself," for boys and girls of approximately junior high school age; "Learning About Love," for young people of both sexes, about 16 to 20 years of age; "Facts Aren't Enough," for adults who have any responsibility for children or youth that may create a need for an understanding of sex education.

Orders for one or more of the pamphlets may be sent to Mrs. Louise Goldman, Bureau of Health Education, American Medical Association, 535 North Dearborn St., Chicago 10, Ill.

Shortening of the Femoral Neck Following Fracture

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THE phenomenon of resorption of bone at the fracture line following an injury is a physiological fact that has been widely recognized. It is associated with several factors, the most common of which are movement at the fracture line, infection, and comminution with loss of bone substance. Yet, in the treatment of fracture through the femoral neck, the implications of this phenomenon have not been universally appreciated by those who are concerned with the repair of such injuries.

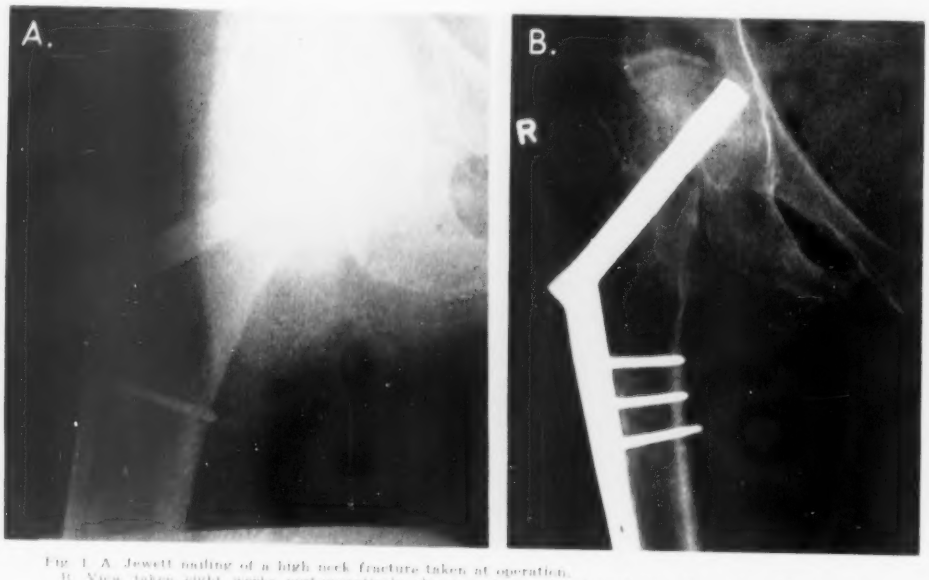

Fig. 1. A. Jewett nailing of a high neck fracture taken at operation.
B. View taken eight weeks post-operatively showing the result of anchoring the nail to the femoral shaft. As resorption occurred, the nail protruded into the acetabulum and required removal.

The femoral neck in the elderly patient is composed of a thin cortical tube of oval shape supported by a moderately dense internal trabecular structure. Following a fracture, the process of resorption begins, which is common, in variable degree, to all fractures. This is more aggravated in the femoral neck by the more fragile subcortical structure and often wafer-thin cortex which give a poor grip on the nail inserted to hold the parts together. There is a constant and strong pull from the muscle groups about the joint which tends to keep a pressure as well as shearing stress acting to carry the distal fragment into external rotation, varus position, and upward displacement. And, then, loss of bone substance or weakening of the bone by comminution contributes its part to the process. The amount of resorption varies greatly and is difficult to predict, but it would appear to be dependent upon three factors, if only mechanical influences are considered. First is movement at the fracture line from insecure fixation. Second is the condition of fragile bony trabecular structure and the inability of the bone to hold an internal splint as well as to withstand the crushing and disintegration of bone along the broken edges from physiological pressures. Then, third, is the amount of bone crushed and lost through comminution at the time of injury. In those hips where the bone is too fragile or soft to give stability to the nail, the movement thus allowed caused a hyperemic resorption with eventual loosening of the nail and shortening of the neck. Where the nail is poorly placed from the standpoint of mechanical advantage, or when several nail tracks have been created by repeated insertions, stress alone in such a loose fixation can cause the same thing by irritative resorption. Whatever the aggravating fac-

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tors may be, a physiological resorption and shortening of the neck is often observed during the healing stage, which seems to be significant insofar as the choice of an internal splint is concerned. It was observation of this sequel that cast doubt on the wisdom of using a blade-plate combination in any fracture from the mid-neck to the sub-capital zone, for, if shortening is of significant degree, then the possibility of the nail rupturing into the acetabulum is a very real thing. Should the head, on the other hand, rotate off, such a nail could not then be extruded by the pressure of the rotating head or the wall of the acetabulum, and it would remain pointing into the joint space or capsule with much damage and pain.

To investigate the validity of this assumption, a group of cases was selected at random over a five-year period done by a variety of surgeons using the Smith-Peterson nail, Venable screws, and Jewett or McLaughlin blade plates. No discrimination was made in evaluating the cases on the basis of their being Pauwels Type I, II, or III, but it was noted that almost all fell into the Type II category. The investigation was directed towards determining the amount of shortening that does occur during healing, or until a complication intervenes, such as a rupture of the nail out of the head, separation of the fracture, etc. Secondly, an attempt was made to evaluate the approximate time when shortening began and how long it continued; and, lastly, it was noted what was the ultimate fate of the fixation device. The information was gained by measuring the length of the femoral neck as it appeared in antero-posterior views taken at intervals after operation. Similar views with respect to variations in rotation were selected, and the known length of nails used was an aid in making measurements. Because of the fact that as marked degrees of rotation of the head sometimes occurred, those measurements of the greater degrees of shortening are much more inaccurate, and were often coincidental with complete displacement of the head which rendered a true measurement impossible. In all, thirty-two cases were measured. They were not chosen because of either good or bad healing, and the end-results are similar to those of many reported series.

Of the thirty-two cases, measurable shortening was found in twenty-four. In nine of these twenty-four the shortening amounted to $\frac{1}{8}$ to $\frac{1}{4}$ inches, but in five it was $\frac{1}{4}$ to $\frac{1}{2}$ inches. In ten it measured more than $\frac{1}{2}$ inch, as is shown in the accompanying table. In view of the frequently associated complication of loss of reduction in this latter group, the measurements are not considered accurate in about half of them. In every case shortening was noticed by the eighth week, most of the change being apparent in six weeks. However, the process of shortening was seen to continue up to as long as sixteen weeks in six of the cases, but these were patients in which poor fixation and eventual non-union were seen. It was interesting to note that poor end results were much more frequent in those hips where the greatest shortening occurred, about half the number so recorded.

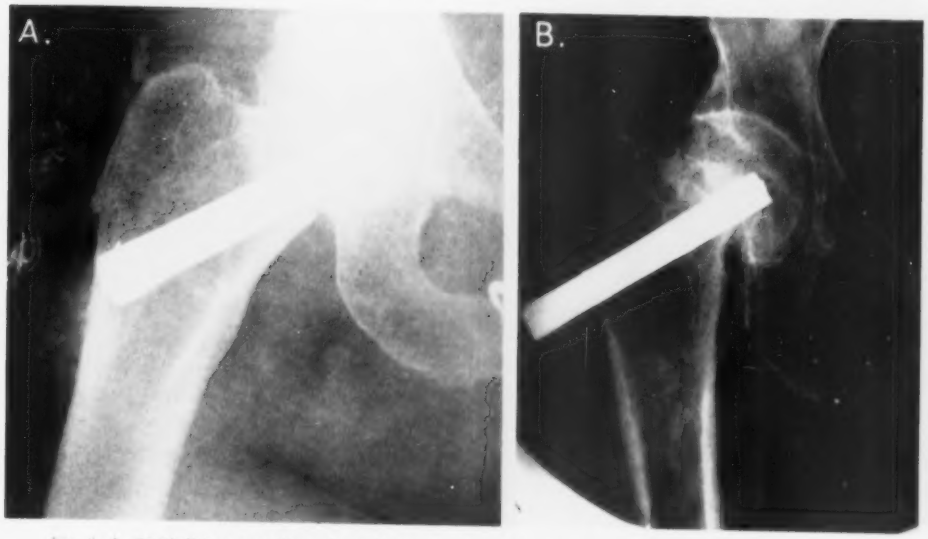

Fig. 2. A. Smith-Peterson nailing of a mid-neck fracture taken at operation.
B. View taken nine weeks post-operatively. Although a half-inch of shortening developed, the nail backed out a like amount without losing fixation, and this fracture went on to solid healing.

In eight cases no measurable resorption was visible, and all of these had healed well. A most significant fact from the standpoint of therapy was that among twenty-one of the twenty-four where shortening was found, the nail backed out commensurately with the shortening, unless, as in five of these cases a side-arm had been attached to the nail. The extrusion of the nail being equal to the shortening of the femoral neck, there was no loss of fixation since the nail retained its relative position in the neck and head. Certain of these did go on to rupture of the nail through the cortex superiorly due to the inability of the bone to hold the metal, but no device of the Smith-Petersen type nor Venable screw penetrated into the acetabulum. In the remaining three cases the nail did back out farther than the amount of resorption, and fixation was lost.

The conclusions from this small study are that fractures of the femoral neck can, in the majority of cases, be expected to undergo shortening of from 1/8 to 1/2 inches. The selection of a nail, screw, or pins must, therefore, anticipate this. It is unwise to anchor the distal end of a nail which will then prevent it from being extruded the appropriate amount as the femoral head settles upon it. If rupture of the nail occurs, a blade-plate has the further disadvantage of being forced into the acetabulum or capsule, causing damage and discomfort, whereas a simple nail will back out an amount that is usually equal to the shortening and still maintain fixation. Although we are far from an ideal mechanical answer to the problem, it is suggested that the use of a blade-plate above the level of the mid-neck invites complications, and the preferable type of fixation is an unanchored Smith-Petersen nail, Venable screw, Moore pins, or similar device which can accomodate to the physiological changes that occur during healing.

MEASURABLE SHORTENING OF THE FEMORAL NECK FOLLOWING HIP NAILING

Number of Cases	Inches of Shortening
9	1/8 - 1/4
5	1/4 - 1/2
10	1/2 plus*
Total 24	

*In this group rotation of the head and loss of reduction were seen in about half, which rendered accurate measurements impossible.

Inadequate Diet Causes Less Anemia.

Anemia in persons living in a "backward rural area where the diet is notoriously deficient" appears to be less common than was expected, according to a survey reported in the July 9th American Medical Association Journal.

However, the majority of 90 cases of anemia were caused by iron deficiency and inadequate diet.

The survey was conducted by J. J. Kirschenfeld, M.D., and H. H. Few, M.S., Fort Deposit, Ala.

Most of the patients were from Lowndes County, Ala. The basic industry is farming, and the important products are cotton, corn, peanuts, cattle, and wood. "The economic status of a large proportion of the population is rather precarious, but improving."

"The chief ingredients of the diet, especially in the Negro population, are corn, pork, lard, and vegetables such as potatoes, turnips, field peas, and collards. Fruit is rare, and beef, eggs, and milk are scarce. . . . To a large extent it is only in the summer months and in the fall that fresh vegetables are available."

Ninety of the 500 patients in the survey showed anemia, a total of 18 per cent. This compares with rates ranging from about 5 to 12 per cent in similar studies conducted in recent years in other areas of the country. Incidence of anemia was about 10 to 15 per cent in the white patient population and 20 to 25 per cent in the Negro population.

Inadequate diet caused 22.2 per cent of the cases, while excessive blood loss and pregnancy each caused 22.1 per cent. Other causes were acute and chronic infections and rheumatoid arthritis. Iron deficiency cases were based on inadequate iron intake, excessive iron loss or iron need due to growth, pregnancy, lactation, menstruation or other loss of blood.

"A large majority of the patients responded well to increased proteins in the diet, the addition of iron, and the correction of any excessive blood loss or infection."

Medical Reports on Industrial Cases

WM. MINOR DEYERLE, M.D., F.A.C.S.
Richmond, Virginia

ACCURATE medical reports containing the necessary information are required by the State Industrial Commission[65-29] and are a necessity for the doctor's records, as well as the records of the insurance carrier in any industrial case. A report must be filed in order to expect a fee from the insurance carrier[65-28]. The reports are sent to the Industrial Commission with a copy to the employer. The name and address of the carrier can be obtained from the employer or the Industrial Commission. There are 4 general types of reports that are required of the treating physician.

1. Attending physician's report
2. Progress reports
3. A report concerning the return to work
4. An estimate of permanent disability

First Physician's Report

This is usually written in triplicate on a form supplied by the State Industrial Commission (Chart I). There should be an accurate statement of how, when and where the accident occurred (quote the patient directly concerning this). If no accident occurred, there should be a clear statement of how, when and where the symptoms developed, and the patient should be specifically asked whether or not there was an accident and what he was doing at the time the initial symptoms occurred. The initial statement obtained from the patient is usually the most accurate concerning the onset of the condition. There is a requirement for estimation of possible temporary total in line 21 of the attending physician's report[65-31]. Then an estimate of the additional temporary partial disability in line 20 of the attending physician's report[65-32]. Both of these estimates should be made considering the patient's job and ability to return to light work. A careful estimate of any anticipated permanent disability should be noted in line 7 of the report. The disability may be permanent partial or so called "general disability"[65-37] or, in the case of extremities or the sensory organs, there may be a specific loss or a percentage thereof[65-52], or it may be both general and specific. The patient may have no anticipated permanent. It is realized that these estimates are no more than scientific guesses but they should be set up as accurately as possible.

Progress Reports

At any time during the care of the patient, if there is a change of condition, these reports should be sent in duplicate. If surgery or any other change of treatment is indicated, this report should include a statement of length of hospitalization required, surgery needed, fee for surgery, and whether or not the surgery will affect the disability, temporary or permanent, with an estimate of the percentage of change. The amount of the bill should be determined by the amount of the bill for similar treatment in a similar community of persons of a like standard of living when the treatment is to be paid for by the injured person[65-78]. The insurance carrier must furnish medical care for the first 60 days, and may be required by the Industrial Commission to furnish such care for the additional period of 10 months. In reference to progress reports, the physician is not infrequently confronted with a patient under his care who has previously made no reference to an on the job injury during the course of treatment. At some date later, he states that it was an on the job injury and requests a report. This can be handled satisfactorily by quoting the patient directly in your progress note but explain to him clearly that your previous records show no information concerning the injury. Inform him that you will be glad to quote him as of the date he first mentioned the injury, and make any statement that he wishes in direct quotes, explaining to him, however, that if a report is required of you, you will give the initial history as he gave it, and you will also give this additional information, given at this later date. This usually puts the delayed recollection of an on the job injury in its proper perspective with the patient, insurance carrier and Industrial Commission.

Statement of Return to Work

This report must be a specific statement as to when, and what type work to which the patient may return. The patient should be encouraged to return to work as early as is compatible with good medical care. It has been shown when a patient returns to

Presented April 22, 1955 at the meeting of the Virginia Orthopaedic Society, Winchester.
Presented May 17, 1955 at the meeting of the Richmond Academy of General Practice, Richmond.
Received for publication May 4, 1955.

FORM NO. 6

CHART I

The Use of This Form Is Required Under the Provisions of the Workmen's Compensation Act.

W. H. NICKELS, JR., COMMISSIONER
W. F. ROBINSON, COMMISSIONER
M. E. NUCKOLS, JR., COMMISSIONER
W. F. BURSEY, SECRETARY

COMMONWEALTH OF VIRGINIA

DEPARTMENT OF WORKMEN'S COMPENSATION

INDUSTRIAL COMMISSION OF VIRGINIA

RICHMOND

Claim No.

Case of

ATTENDING PHYSICIAN'S REPORT

All questions in this blank should be answered, and the report should contain an account of all injuries, no matter how trivial. Fill out blank in ink using pen or typewriter, and mail promptly to the Commission at its Richmond office.

The Patient

1. **Name of Injured Person:** Age: Sex:
2. Address: No. and St. City or Town State
3. **Name and Address of Employer:**

The Accident

4. **Date of Accident** Hour M. Date disability began
5. State in patient's own words where and how accident occurred:

The Injury

6. **Give accurate description of nature and extent of injury and state your objective findings:**
7. Will the injury result in (a) Permanent defect? If so, what?
   (b) Facial or head disfigurement?
   (Permanent disability such as loss of whole or parts of fingers, facial or head disfigurement, etc., must be accurately marked on chart on reverse side of this report.)
8. Is accident above referred to the only cause of patient's condition? If not, state contributing causes:
9. Is patient suffering from any disease of the heart, lungs, brain, kidneys, blood, vascular system or any other disabling condition not due to this accident? Give particulars:
10. Has patient any physical impairment due to previous accident or disease? Give particulars:
11. Has normal recovery been delayed for any reason Give particulars:

Treatment

12. Date of your first treatment: Who engaged your services?
13. Describe treatment given by you:
14. Were X-Rays taken? By whom? When?
15. X-Ray diagnosis:
16. Was patient treated by anyone else? By whom? When?
17. Was patient hospitalized? Name and address of hospital:
18. Date of admission to hospital Date of discharge:
19. Is further treatment needed? For how long?

Disability

20. **Patient** was / will be **able to resume regular work on:**
21. **Patient** was / will be **able to resume light work on:**
22. **If death ensued give date:**

REMARKS: (Give any information of value not included above)

I am a duly licensed physician in the State of
I was graduated from Medical School in Year
Date of this report: (Signed)
This report must be signed personally by physician. Address: Telephone

COMPLETE THIS REPORT IMMEDIATELY AFTER SEEING PATIENT FOR THE FIRST TIME

some gainful occupation at an early date, there is not only a decrease in the temporary total, but also a decrease in the permanent disability to be reported later. It must also be borne in mind, however, that if the patient is sent back to work which he is unable to perform, it may be the cause of retarded recovery and further disability. If the patient refuses to return to work when the evidence, both medical and other factors such as the patient's education and training, shows that he is able, he may lose all compensation unless, in the opinion of the Industrial Commission, such refusal is justified[65-50]. It is, therefore, important to give definite instructions concerning the type of work that may be performed, considering his physical, mental and occupational capabilities. Sometimes this will be light work, and at other times it may be the patient's regular work. This report of return to work should also state whether or not additional medical treatment is necessary.

Permanent Disability

Before a patient has a final letter concerning his permanent disability, he should have reached a maximum medical recovery. The patient may be rated in 3 possible ways:

1. He may be totally incapacitated, in which event, he may be paid 60% of his wages, but not more than $27.00 per week up to 500 weeks, or up to a total of $10,800.00 for all compensation[65-51].

2. He may have a partial incapacity (general disability) during which he is paid 60% of the difference between the wages before injury, and the wages he is able to earn thereafter, but not over $27.00 per week. He is paid on this basis during both temporary and permanent partial disability. He can receive up to 500 weeks[65-52]. Since this loss of earning capacity must be actual, his physician can state only that he would anticipate a certain percentage of general disability, and that the actual loss of earning capacity will have to be computed by the Industrial Commission on a basis of the patient's earnings after his return to work. The physician's report should also state the type of work the patient can now perform, taking into consideration his education and training and physical condition.

3. In a specific loss of a member, or loss of one of his senses, as noted in the following excerpt from the Virginia Workmen's Compensation Act[65-53]:

65-53. Cases in Which Incapacity Shall Be Deemed to Continue for Periods Specified in Section; Compensation

In cases included by the following schedule the incapacity in each case shall be deemed to continue for the period specified and the compensation so paid for such injury shall be as specified therein and shall be in lieu of all other compensation:

(1) For the loss of a thumb sixty per centum of the average weekly wages during sixty weeks.

(2) For the loss of a first finger, commonly called the index finger, sixty per centum of the average weekly wages during thirty-five weeks.

(3) For the loss of a second finger sixty per centum of average weekly wages during thirty weeks.

(4) For the loss of a third finger sixty per centum of average weekly wages during twenty weeks.

(5) For the loss of a fourth finger, commonly called the little finger, sixty per centum of average weekly wages during fifteen weeks.

(6) The loss of the first phalange of the thumb or any finger shall be considered to be equal to the loss of one-half of such thumb or finger and the compensation shall be for one-half of the periods of time above specified.

(7) The loss of more than one phalange shall be considered the loss of the entire finger or thumb; provided, however, that in no case shall the amount received for more than one finger exceed the amount provided in this schedule for the loss of a hand.

(8) For the loss of a great toe sixty per centum of the average weekly wages during thirty weeks.

(9) For the loss of one of the toes other than a great toe sixty per centum of the average weekly wages during ten weeks.

(10) The loss of the first phalange of any toe shall be considered to be equal to the loss of one-half of such toe and the compensation shall be for one-half of the periods of time above specified.

(11) The loss of more than one phalange shall be considered as the loss of the entire toe.

(12) For the loss of a hand sixty per centum of the average weekly wages during one hundred and fifty weeks.

(13) For the loss of an arm sixty per centum of the average weekly wages during two hundred weeks.

(14) For the loss of a foot sixty per centum of average weekly wages during one hundred and twenty-five weeks.

(15) For the loss of a leg sixty per centum of average weekly wages during one hundred and seventy-five weeks.

(16) For the permanent total loss of the vision of an eye sixty per centum of the average weekly wages during one hundred weeks, and for the permanent partial loss of the vision of an eye the percentage of one hundred weeks equivalent to the percentage of the vision so permanently lost.

(17) For the permanent total loss of the hearing of an ear sixty per centum of the average weekly wages during fifty weeks; and for the permanent partial loss of the hearing of an ear the percentage of fifty weeks equivalent to the percentage of the hearing so permanently lost.

(18) The loss of both hands, both arms, both feet, both legs or both eyes, or any two thereof, in the same accident, shall constitute total and permanent incapacity, to be compensated according to the provisions of 65-54.

(19) For marked disfigurement of the head or face resulting from an injury not above mentioned in this section which will impair the future usefulness or occupational opportunities of the injured employee sixty per centum of the average weekly wages not exceeding sixty weeks.

In construing this section the permanent loss of the use of a member shall be held equivalent to the loss of such member and for the permanent partial loss or loss of use of a member compensation may be proportionately awarded.

This specific award may be total, or may be proportionately awarded. In general, any loss of less than 5% is not reportable, and by the same reasoning, any loss of 95% should be reported as 100%. It is to be remembered that the percentage of loss is on a basis of industrial loss of function; as example, the removal of a torn knee cartilage produces a medical defect, but if the knee functions well enough to return the man to his former occupation without pain and discomfort, he should not be given a percentage of disability just because there is a cartilage missing and a scar on his knee. This type award is made only after maximum medical improvement, when, for the first time, it can be said that the loss of use is permanent. A patient may have permanent disability under both the second and third groups, however, he is never paid both at the same time, but is paid consecutively, first for the specific injury and then on the basis of wage loss for the general disability.

Bibliography

All references are from the Virginia Workmen's Compensation Act of 1951, amended in 1952 and 1954.

Discussion

Marvin Nicholls, *Commissioner State Industrial Commission*

For compensation purposes industrial injuries are divided into two classes, and compensated for on two entirely different bases. Where the injury is of a general nature, which includes injuries to the trunk, head, or functional disorders, related to accidental injuries or occupational disease, the measure of compensability is diminution in wage earning capacity. Medical evidence is not the sole criteria. There have been and will continue to be many cases where the medical evidence shows only a percentage of disability when in truth and in fact the disability so found renders the employee incapable of working and, therefore, incapable of earning any wage. The loss of earning power as the result of an injury of a general nature is not necessarily proportional to the bodily functional disability. When the physician first sees the patient he should determine whether the man is totally incapacitated for work. When the injury becomes static, that is to say, after maximum recovery has been had, the physician should then rate (medically) the disability (permanent) in percentages. Because the measure of compensability is wage earning capacity and not medical estimates of permanent disability, the physician should then ascertain the type of work in which the employee was engaged at the time of the accidental injury and express an opinion on the physical capacity of the injured employee to return to this type of work. If the physician concludes that the employee is so handicapped by reason of his injury that he can no longer engage in the trade or occupation in which he was engaged at the time of the accidental injury—and as you all know this is frequently so, as in the case of a carpenter who receives an injury to the cervical spine and is left with residual limitation of motion in the upper extremities which prevents him from working overhead or climbing—then the physician should express an opinion on the type of work in which the man is physically able to pursue. Consideration should be given to his training and education. If the injured employee, after maximum recovery is had, is by reason of his injury unable, in spite of diligent effort to obtain employment, it would be an abuse of language to say that he was still able to earn money; that he still had a capacity to work—even though his physical powers might be such as would enable him to do some kind of work if practically the labor market were not thus closed to him. He has became unable to earn anything. He has lost his capacity to work for wages to support himself—not by reason of any change in market conditions—but because of a defect personal to himself and which is the direct result of the injury he has sustained. He is deprived of the benefit which the statute promises to him if he is told that because he could do some work—if he could get it—he is not under an incapacity for work although by reason

of his injury he can obtain no opportunity to work.

The term "total incapacity" or "total disability" as used in the statute does not imply an absolute disability to perform any kind of work. It does not mean absolute helplessness, or entire physical disability. If an injured employee is disqualified by reason of his injury from pursuing the usual tasks of a workman in such a way as to enable him to procure and retain employment, he is, for compensation purposes, totally disabled.

The rule cuts both ways. If an injured employee with a medically rated permanent partial disability of a general nature as the result of injury, returns to work and earns wages in an amount equal to those received by him prior to his injury, he fails to make out a compensable injury or incapacity. The fact that he has a 20% or 25% permanent partial disability does not *per se* entitle him to compensation benefits.

(The English courts have adopted what has been called the "odd lot rule". That is, if by reason of the incapacity the employee's status on the labor market has been reduced to the relatively unsaleable "odd lot" of ability. Although the worker has some ability which he may offer for wages, if he is unable, in fact, to sell that ability—to find employment—and the failure is due to the limited ability, the wages which he is able to earn are reduced to zero.)

When considering the benefits under the Act for specific injuries, that is, injuries which result in a loss or loss of use of a bodily member—an extremity or component part thereof, or an eye, or loss of hearing—a different situation arises. Here compensation benefits are provided for and are fixed and payable regardless of loss of wage earning capacity—employability—or like consideration. The employee's benefits are usually gaged on medical estimates or percentage of permanent loss of use of the injured member. Benefits in such cases are regarded as indemnity for the loss or loss of use of the injured member.

Some consideration should be given to the phrases "total and permanent loss" or "loss of use" of a member. This language does not mean that the member is immovable or that it cannot be used in walking around the house or even around the block. They do mean that the injured employee is unable to use the member in any substantial degree in *any* gainful employment, for which the employee is physically and mentally fitted. While the loss of a member necessarily involves the loss of use of it, the loss of a member does not necessarily involve the actual loss of the member as a physical member—a distinction the law recognizes and observes. The fact that the employee may perform work not requiring use of a injured member, and that he can walk without the use of a cane, crutch, or brace, when to do so causes him pain, swelling, inflammation, and further weakening of the member, does not show as a matter of law that he has not suffered permanent total loss of use of the member. So, in dealing with specific, or scheduled injuries, the physician should, when maximum recovery is attained, medically rate the injured member for percentage partial loss of industrial use.

I cannot impress upon you too strongly the necessity for being reasonably definite in medical reports. Questions of casual relationship between injury and accident and permanent disability should be determined within the realm of reasonable probability by the physician. The law realizes that the physician has no crystal ball and that the practice of medicine is not an exact science, and that these questions cannot be determined with absolute certainty. Such is not asked. We only ask that the physician express his views within the realm of reasonable probability.

Next, I would like to discuss with you briefly the matter of lump sum payments, and compromise settlements of workmen's compensation claims. I am advised that many physicians feel that lump sum payments in cases where objective findings or lesions cannot be demonstrated to account for complaints and that functional factors are largely responsible for the disability, that such should be approved by the Commission as therapeutic measures. In a very small percentage of cases this is true. However, in the overwhelming majority, the approval of a lump sum settlement is not only unwise, but is not to the best interest of the injured employee. I will give you my reasons for this statement in a moment.

I believe that those of you who have adopted this view have done so because you find it difficult to distinguish between the intentional malingerer, or compensationitis, and traumatic neurosis or psychosis. There is no doubt that such procedures would settle many problems both for the physician and for the Commission. However, it is my opinion that irreparable injury would be done to workmen in many cases, and for that reason such proposals are closely scrutinized. There have been and doubtless will be many cases in which the physician is unable to demonstrate pathology to account for subjective complaints, when in reality, there was, or is, an underlying pathological condition to account for them. If the workman enters into a compromise settlement his right to compensation is thereafter forever barred.

His right to medical attention or treatment is thereafter forever barred.

Most injured employees whose claims are considered by the Industrial Commission are unlettered workman. If their claims are compromised and they are paid the amount of the agreed settlement in a lump sum, this windfall is usually dissipated and thereafter the workman, if he is disabled, becomes a public charge upon the community. The purpose of workmen's compensation, which is to provide the injured worker and his dependents with a sustenance during his period of incapacity for work, as the result of industrial accident, is entirely defeated.

Compensation in the overwhelming majority of cases should be payable weekly or semi-weekly during the time the injured is unable to work, or able to work, while his earning ability or capacity is reduced. There is provision in the law for compromise settlements, with the approval of the Industrial Commission. However, the Legislature has provided that such agreements may be approved only when the Commission is clearly of the opinion that the best interest of the employee or his dependents will be served thereby.

As a matter of practice we approve compromise settlements and lump sum payments, but only in those cases where, in our judgment, the best interest of the employee and his dependents will be served. Such a case would be where an injured workman was incapable, by reason of his injury, from returning to laborious work, but wished to settle his claim in a lump sum in order that the funds might be used to purchase an interest in a small business of some kind and thereby enable him to become self-supporting again. However, I will again say that the Commission as a general proposition looks with distavor upon lump sum settlements, and we wish that the physicians would, in their medical reports which are to be filed with the Commission as a part of the record, refrain from making such suggestions for the reason that the implication is that the patient is a malingerer.

Open Discussion of Medical Reports on Industrial Cases

Virginia Orthopaedic Society Meeting at Winchester

April 22-23, 1955

Moderator

Wm. Minor Deverle, M.D., Richmond, Virginia

Panel

Marvin Nuckols, Industrial Commissioner
Richmond, Virginia

Roy Hoover, M.D., Roanoke, Virginia
L. W. Hulley, M.D., Advisor to the Industrial Commission
Richmond, Virginia

Dr. Hulley stated that there was some confusion concerning facial disfigurement; that a physician could state only whether or not marked facial or head disfigurement existed, and he should describe the length and type of scar, but that it was a matter for the Industrial Commisison to determine to what extent this disfigurement was compensable.

Dr. Hoover felt that 3 points should be mentioned:

1. The patient should be made to feel that he is being handled just as any other private patient, and not made to feel that because he is an Industrial case, he is being handled in a different fashion. The patient is very quick to perceive this difference, and his response to treatment and return to work can be very directly influenced by the relationship between the doctor and patient.

2. Dr. Hoover felt that the physician should at all times, in reports and testimony, bear in mind that he is a witness of fact and not an advocate. On occasions when he is called upon for his opinion, he should try to be as objective as possible.

3. Dr. Hoover also felt that in industrial cases, from a medical standpoint, the patient's rights are very well protected by the physician, Industrial Commission and insurance company, and that legal counsel for the patient was not very often required.

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Public Health . . . .

MACK I. SHANHOLTZ, M.D.
State Health Commissioner of Virginia

Poliomyelitis Vaccine

On April 12, 1955, it was announced that the vaccine developed by Dr. Jonas E. Salk had been successful in its use for the prevention of paralytic poliomyelitis. Following this the vaccine was released to the States by the National Foundation for Infantile Paralysis for administration to children in the first and second grades of schools and for booster doses to those who participated in the field trials of the vaccine in 1954. From April 18 through May 6 in Virginia 176,054 children were given the first dose of the vaccine.

Starting April 27, much confusion over the safety of the Salk Vaccine arose because of the appearance of poliomyelitis in other parts of the country in some children who had received vaccine prepared by the Cutter Laboratories. As a result of this incident the Surgeon General of the Public Health Service had withdrawn from the market all Cutter poliomyelitis vaccine. Investigation of production in all of the five pharmaceutical firms manufacturing poliomyelitis vaccine was instigated.

On June 10, the National Institutes of Health (NIH) announced that more stringent tests, including duplicate testing by the NIH, would be required of all polio vaccine manufactured for future use. A new Division of Biologic Standards with added staff and expanded facilities was set up in NIH and a committee of experts was appointed to pass on each lot of vaccine submitted for release. In addition, provision was made to have NIH inspectors attached to each plant that manufactures polio vaccine. These new policies and procedures should assure the safety and potency of poliomyelitis vaccine before it is supplied to the market.

On June 18, the National Foundation for Infantile Paralysis held a meeting at which were present its Vaccine Advisory Committee and representatives from the American Medical Association, American Academy of General Practice, American Academy of Pediatrics, American Public Health Association, Association of State and Territorial Health Officers, Public Health Service, and some special consultants. A full day's discussion of the use of polio vaccine during the summer was held and the following points were made:

1. The Salk Vaccine differs from materials like penicillin and pertussis vaccine in its possible paralysis-provoking effect because it is essentially a balanced salt solution with only a trace of protein. The purpose of the vaccine is to produce antibodies against polio while other injected materials have no such protective effect. A review of the experience in the field trials in 1954 and the use of the vaccine in the southern states in 1955, showed no evidence of provocation either in localization of paralysis in the injected limb or in increased incidence of paralytic disease.
2. Dr. Salk has stated that antibodies appear in 80 per cent of the children within 7-10 days after the first injection of the vaccine. Therefore, the danger of a provoking effect decreases after antibodies appear in measurable amounts. Apply this to the second injection and the protective response should be greater and more rapid than after the first injection.
3. Dr. Salk has shown that any measurable antibody has some effect in protecting against polio but the minimal levels necessary to prevent paralytic polio under various conditions are not known. There should be little risk of provoking polio in children who have recently received the first dose of injecting a subsequent dose.
4. There is scant evidence that injections of materials other than polio vaccine increase the risk of paralytic polio during epidemic periods.
5. No vaccine is 100 percent effective and some children given vaccine while polio is prevalent will have paralytic polio. If the vaccine is given during the incubation period it will not prevent the disease. Any possible risk of a provoking effect of the polio vaccine can be minimized by avoiding the vaccination of household contacts (the majority of whom are already infected) and of children presenting symptoms of acute infections or gastrointestinal upsets.
6. The opinion of the experts is that the total preventive effect of the vaccine in a period of

trying poliomyelitis incidence should be much greater than its paralysis-provoking effect.

On July 6, the Poliomyelitis Advisory Committee to the State Health Department, composed of members of the Poliomyelitis Committee of The Medical Society of Virginia, representatives of the State, City and County Health Departments, Virginia Academy of Pediatrics, Virginia Orthopedic Society, school physicians, Pharmaceutical Association, Department of Public Education and Virginia Branch National Foundation for Infantile Paralysis, met to consider the timing of the second dose of vaccine in the state. It was agreed that it would be wise to delay the administration of the second doses and the booster doses (for the 1954 field trial groups) until after the reopening of the schools. This action was taken because of the belief that only 50 per cent or less of the eligible children would respond if called now and the administrative difficulties would be too great. Furthermore, by the time the vaccine became available and was administered the current polio season would be well advanced and protection afforded for this year would not be great. It was also the opinion of the Advisory Committee that any unfavorable reactions and any development of polio in the vaccinated group would not be properly interpreted by the public and that harmful effects would be attributed to the vaccine which would tend to destroy rather than build up confidence in the vaccine.

The State Health Department has been assured by the National Foundation for Infantile Paralysis that vaccine for second doses and for the 1954 field trial children will be available when requested this fall.

MORBIDITY REPORT OF THE BUREAU OF COMMUNICABLE DISEASE CONTROL

	July 1955	July 1954	Jan.-July 1955	Jan.-July 1954
Brucellosis	5	3	20	21
Diphtheria	2	1	16	26
Hepatitis Infectious	59	190	803	2790
Measles	243	1113	3556	23139
Meningococcic Infections	5	5	66	74
Poliomyelitis	61	70	97	167
Rocky Mt. Spotted Fever	15	10	41	22
Streptococcal Infections	344	228	4798	3273
Tularemia	2	4	9	25
Typhoid Fever	7	2	25	10
Rabies (In Animals)	18	29	249	254

Low-Fat Diet—Coronary Disease Pain

A low-fat diet may be useful in helping to prevent angina pectoris, one of the most painful effects of coronary disease, two Philadelphia physicians said in the July 23rd Journal of the American Medical Association.

Angina pectoris, a severe pain in the chest, which carries with it a feeling of suffocation and impending death, is usually brought on by effort or excitement. Anginal pain following meals has been attributed to the increased heart work during digestion or to heart artery constriction resulting from a distended stomach. However, the two Philadelphia doctors suggested that the cause may be too much fat in the meal.

Fourteen patients with coronary disease at the Hospital of the University of Pennsylvania were given a fatty meal consisting of heavy cream, flavored with cocoa and synthetic sweetening. Six patients had a total of 14 severe attacks of angina pectoris from three to five hours after eating. Two other patients developed relatively mild and short attacks about five hours after eating. The patients said the discomfort was identical to that of effort-produced angina. Blood samples taken at intervals after the meal showed a steady rise in fat content, with the highest point reached about the time of the attack.

This slowly rising and prolonged fat concentration might explain why angina pectoris may occur in certain individuals after a certain meal of the day. It also might be partly responsible for angina decubitus, chest pain occurring when the patient is lying down.

Other tests showed changes in heart rate and a temporary deficiency of blood in the myocardium (heart muscle) during the attack. The doctors said that high fat concentrations, bringing about such a deficiency during the attack, could have a bad effect on the myocardium in persons whose circulation already is impaired by coronary disease. This is another good reason for giving a low-fat diet to patients with angina pectoris.

Making the survey were Dr. Peter T. Kuo, Hospital of the University of Pennsylvania, and Dr. Claude R. Joyner, Jr., National Heart Institute of the National Institutes of Health.

Mental Health . . . .

JOSEPH E. BARRETT, M.D.
Commissioner, Department Mental Hygiene and Hospitals

The Value of Chlorpromazine Hydrochloride and Reserpine in Relation to Other Methods Used in Treating Mental Illness

This brief article calls attention to certain aspects of the use of chlorpromazine hydrochloride and reserpine in relation to other forms of treatment for mental illness. Both drugs, under the trade names of THORAZINE* and SERPASIL,†‡ have been in use at Eastern State Hospital for some time and our experience with them is the basis for the following impressions.

Our evaluation of the clinical effect of SERPASIL on chronically ill mental patients has been directed toward determining whether this drug has an effect on the psychotic process itself, or is only of value in controlling symptoms. We have also attempted to estimate the extent of the symptomatological effect and whether it is temporary or permanent.

In this project thirty-six mental patients whose illness was of a chronic nature were observed over two periods of treatment of seven weeks' duration interrupted by a five week period without treatment. During each seven week period, SERPASIL was administered orally in doses of 2 mg. daily to half the group; the other half, given an equivalent placebo, served as the control group. Basing impressions on the psychiatric interviews only, the writer found no major changes in the psychotic processes in either group at the conclusion of the treatment periods. This examiner's united impression therefore is that SERPASIL does not alter the course or process of chronic schizophrenia.

This medication has, however, a limited effect on the symptoms in that the patient finds it more possible to control and tolerate them while under this type of drug. The dosage of 2 mg. per day, it should be added, is considered too low; a dosage of 5 to 10 mg. daily starting with intravenous or muscular injections is recommended.

On the other hand disturbed patients of all categories can be handled more easily when under treatment with SERPASIL or THORAZINE and the patient are more accessible for other means of treatment. The agitated senile patient, who is often physically feeble, undernourished and dehydrated, can be given much better nursing care under this medication so that dermatological problems can be cleared up and feeding more adequately handled. Our experience even leads us to believe that many senile patients could be cared for in their homes if properly treated with these medications.

Since our experience shows that all acutely disturbed psychotic patients can be controlled by brands of chlorpromazine hydrochloride and reserpine if the dosage is adjusted to their needs, we are able to treat delirium tremens, manic states and catatonic excitements through the use of these medications, and after controlling the disturbed behavior the patient, as stated above, becomes more accessible for other means of treatment. It is possible in select cases to treat a manic patient on an ambulatory basis by giving him a tranquilizing drug in a dosage that controls his alarming symptoms. The patient may then be tolerated at home and electroshock treatment administered in an out-patient clinic. The use of these drugs may have a soothing effect on patients who are chronically disturbed and when the management is easier there is the possibility of additional treatment through occupational therapy or group therapy. Anxiety states in psychoneurotic patients may also be averaged through the use of these drugs so that the patients are able to cooperate and respond to psychotherapy. In other words, our experience indicates that there is wide usefulness for these drugs as adjuncts to recognized methods of treatment for the mentally ill.

There is no reason to believe, however, that these drugs are substitutes for insulin shock or electroshock treatment. The pharmacological effect of both these drugs is understood to be on the autonomic nervous system, probably at the hypothalamic level and the effects of reserpine have been explained as alterations of the autonomic balance at this level of the midbrain. Such effects as sedation, reduced emotional response, differences in autonomic peripheral re-

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*Thorazine—Trademark, Smith, Kline & French Laboratories.

†Serpasil—Ciba Pharmaceutical Corporation.

spasms and circulatory changes have been explained in this manner. This is of great interest, particularly in the treatment of schizophrenia, as this illness, according to current neurophysiological texts, is characterized by a deficiency reaction of the sympathetic division of the autonomic nervous system at the hypothalamic level and the mental changes correspond to those observed in disturbances of the hypothalamic function and the hypothalamic cortical relation. The different types of shock treatment for schizophrenia are believed to act on the centers of the autonomic system at the hypothalamic level by altering the mental processes through increased hypothalamic activity. Furthermore, it is believed that the full value of shock treatment is based upon these changes rather than upon the brain damage resulting from anoxia. On these loosely formulated hypotheses it is impossible to discuss any similarity in action of these varying treatments. On the other hand there is no basis for believing that one type of treatment can be substituted for another.

Under these circumstances it may be more valid to base judgment upon clinical evaluations. These drugs do not, as mentioned above, affect the processes of schizophrenia although they may have some effect upon the symptoms—for instance, permit the patient to tolerate certain symptoms more easily. Electroshock and insulin shock treatment not only quiet the patient and make him more manageable, but, in many cases, these treatments have a selective effect on the mental illness itself. The original cause of the illness may not have been removed, but, in many cases, the patient will be relatively free from symptoms over a long period after the treatments have been terminated and be able to make a satisfactory readjustment.

Likewise, states of acute manic depression and, to a lesser degree, acute catatonic excitement are responding to electroshock treatment in combination with coramine stimulation. It would, therefore, be inadvisable to substitute this treatment, which we know is effective, with THORAZINE and SERPASIL unless the latter medication were to be followed by other effective forms of treatment. In acutely disturbed patients, particularly delirium tremens, it would certainly be unwise to omit attention to fluid intake and properly balanced diets plus specific vitamin therapy. On the other hand, if a remission seems imminent or the state of excitement has reached a pitch where the patient is on the verge of collapse or exhaustion, it would be good practice to give THORAZINE or SERPASIL before these conditions develop.

Depressive states encountered in community practice and in psychiatric hospitals are usually accompanied by agitation and SERPASIL or THORAZINE, under such conditions, may be used to tranquilize the patient. The use of these drugs, however, will not change the patient's underlying condition. Electroshock, on the other hand, will not only control the agitation but also, in most cases, affect the depression itself and the patient may be expected to recover. Milder forms of depressive states may be treated by combining amphetamine with barbiturate preparations. There are also rauwolfia serpentina derivatives combined with amphetamine or similar stimulants which may be suitable for treating milder forms of depressive states.

In the treatment of psychoneurotic patients these drugs have no place except for the sedative effect they produce. Anxiety states may be controlled by the use of THORAZINE or SERPASIL and so make the patient more accessible to psychotherapy, but these drugs are, in no sense, substitutes for psychotherapy and most psychiatrists would be reluctant to have them used during periods when psychotherapy is being tried. The same comment applies to the use of these drugs when psychoneurotic patients are being treated by electric shock, non-convulsive electrostimulus or with carbon dioxide.

Some investigators feel also that SERPASIL and THORAZINE when used in the initial stage of treatment may produce a certain turbulence which can be used as a tool in effective psychotherapy.

Many physicians caring for mental patients have had the dream of finding a drug which would prove effective in the treatment of schizophrenia, the major problem in the field of psychiatry. Because this illness is believed to be a disturbance of the body as well as of the mind, its possible treatment by physical means—perhaps a simple chemical agent—has sustained this dream. We are all cognizant of the extensive and varied studies being made in many in many institutions for this country concerning the value of chlorpromazine hydrochloride and reserpine for schizophrenia and some of these workers feel that the above-mentioned drugs are a step toward the fulfillment of this dream.

The question has been raised as to whether these drugs could be substituted for psychosurgery. Usually lobectomy is considered in mental illness when adequate amounts of other types of treatment have failed, and until we learn otherwise, adequate treatment with chlorpromazine and reserpine should be included. It is this writer's opinion, however, that

these drugs are not likely to outclass prefrontal or transorbital lobotomy in well-selected cases of chronically ill patients who have had a great amount of anxiety or for patients suffering from severe obsessive, compulsive states. That these drugs are quite expensive, if used in sufficiently high dosage over a long period, also plays a part in therapeutic planning for large state hospitals where electricity, at least, is to be had in spite of the low budgets available for medication.

New A.M.A. Drug Evaluation.

A new program to give physicians timely information on the usefulness and safety of new drugs has been announced by the Council on Pharmacy and Chemistry of the American Medical Association. The council's announcement, in the July 30th Journal of the American Medical Association, is the first in a series by A.M.A. councils on programs inaugurated to replace various "seal acceptance" activities discontinued in February. The council will examine available published and unpublished evidence relating to the actions, uses, dosages, hazards, and other properties of drugs. It will not conduct clinical and laboratory tests. Reports of these evaluations will be published for the information of the medical profession.

For many years A.M.A. councils have evaluated products used by physicians and the public. In these programs, council seals were awarded to manufacturers and distributors of drugs, foods, devices and cosmetics that met acceptance requirements.

"The evaluation of a multitude of individual brands, rather than classes of products, became so time-consuming that it threatened to interfere with the broader aspects of the council programs," an accompanying Journal editorial said. "... new and effective programs are being adopted by the scientific councils—programs that do not require the inspection of individual products or the issuance of seals."

The report by the Council on Pharmacy and Chemistry said:

"There is an increasing demand from the medical profession in general for concise and timely reports that contain an authoritative, unbiased evaluation of new therapeutic agents. ... In this present era of rapid new developments in therapeutics, the work involved in processing for acceptance many different brands of a drug became cumbersome and time-consuming to the extent that physicians could no longer be provided with the type of service they desired.

"Under the new program drugs will be evaluated at the earliest possible opportunity in order to serve the best interests of the profession. As a rule the greatest interest in a new drug occurs at the time it is introduced on the market for general use. This is also the time when there is the most need for an unbiased report containing information that will aid physicians in judicious or proper use of such medication."

Pharmaceutical firms have been invited to cooperate with the council by forwarding complete data and reports of all laboratory and clinical investigations relating to new drugs so evaluation reports may be made at the earliest possible time.

After council members and other recognized experts have considered the scientific, clinical and laboratory evidence, evaluation reports will be published in the Journal of the A.M.A. and in the council's annual publication, New and Nonofficial Remedies. Firms will be given an opportunity to comment on the reports before publication and due consideration will be given to their comments.

The council will not endorse, recommend, or guarantee any individual brand or preparation of a drug described in New and Nonofficial Remedies.

It will not investigate manufacturing procedures, nor try to determine whether any firm has complied with federal, state, or municipal laws and regulations.

Each drug evaluated by the council will be described by a common or non-brand name.

Book Announcements . . . .

Pomp and Pestilence. Infectious Disease, Its Origins and Conquest. By RONALD HARE, M.D., Professor of Bacteriology in the University of London at St. Thomas's Hospital Medical School. The Philosophical Library, Inc., New York. 1955. 224 pages. Cloth. Price $5.75.

Early Care of Acute Soft Tissue Injuries. Committee on Trauma. American College of Surgeons, Chicago, Illinois. First Edition. 1954. xiv-192 pages. Paper.

An Outline of the Treatment of Fractures. By The Committee on Trauma. American College of Surgeons, Chicago, Illinois. Revised and Amplified Fifth Edition. 1954. xiii-94 pages. Paper.

Management of Addictions. Edited by EDWARD PODOLSKY, M.D., Department of Psychiatry, Kings County Hospital, Brooklyn, New York. Philosophical Library, New York. 1955. xvii-413 pages. Cloth. Price $7.50.

The Care of Your Skin. By HERBERT LAWRENCE, M.D. Little, Brown and Company, Boston. 1955. xiv-95 pages. Cloth. Price $2.50.

Ion Exchange and Adsorption Agents in Medicine. The Concepts of Intestinal Bionomics. By GUSTAV J. MARTIN, Sc.D., Research Director, The National Drug Company, Philadelphia. Little, Brown and Company, Boston. 1955. vii-333 pages. Illustrated with 15 line drawings and 11 photographs. Cloth. Price $7.50.

Should the Patient Know the Truth. A Response of Physicians, Nurses, Clergymen, and Lawyers. Edited by SAMUEL STANDARD, M.D., and HELMUTH NATHAN, M.D. Springer Publishing Company, New York. 1955. 160 pages. Cloth. Price $3.00 (Hard Cover) or $2.00 (Soft Cover).

Perinatal Mortality in New York City. Responsible Factors. A Study of 955 Deaths by the Subcommittee on Neonatal Mortality, Committee on Public Health Relations, The New York Academy of Medicine. Analyzed and Reported by Schuyler G. Kohl, M.S., M.D., Dr. P.H. Published for The Commonwealth Fund by Harvard University Press, Cambridge, Massachusetts. 1955. xxi-112 pages. Cloth. Price $2.50.

Tea. A Symposium on the Pharmacology and Physiologic and Psychologic Effects of Tea. HENRY J. KLAUNBERG, Ph.D., Editor, Executive Director, The Biological Sciences Foundation, Ltd., Founder Member of the United States Committee of the World Medical Association; etc. The Biological Sciences Foundation, Ltd., Washington, D.C. 1955. 64 pages. Paper. Price $1.00.

The Reproductive System. The Ciba Collection of Medical Illustrations. Volume 2. A Compilation of Paintings on the Normal and Pathologic Anatomy. Prepared by FRANK H. NETTER, M.D. Edited by Ernst Oppenheimer, M.D. With a Foreword by John Rock, M.D., Clinical Professor of Gynecology, Harvard Medical School. Commissioned and published by Ciba Pharmaceutical Products, Summit, New Jersey. 1954. xvi-286 pages. Price $13.00.

This second volume of the Ciba Collection of Medical Illustrations is indeed a worthwhile part of the library of medical students, general practitioners, obstetricians, gynecologists, urologists, and surgeons. The excellent paintings by artist Frank Netter, not only depict the normal body and its gross pathology, but he also paints the normal and pathological microscopic findings as seen under both high and low magnifications.

The book is well organized into fourteen sections, each section containing adequate discussions by well known medical writers and clinicians as Drs. Albert Decker, Charles F. Geschickter, Robert A. Hingson, George W. Mitchell, Jr., Josef Novak, Somers H. Sturgis, and Samuel A. Vest.

Illustrated charts showing the hormonal influence on the body physiology are well utilized and are certainly an outstanding contribution to the section on the Normal Anatomy of the Female Genital Tract and Its Functional Relationship.

The finding of well written informative discussions adjacent to the illustrations are a definite aid to the reader who doesn't have to break his continuity of thought turning pages while he is studying a certain topic.

To the doctor, this book serves as a fine review, an excellent supplement to notes and standard texts, and as a useful device for explaining contemplated surgery, diseased conditions, or normal physiology to the patient.

JOSEPH B. KOHEN, JR.

Regional Allergy of the United States, Canada, Mexico, and Cuba. A Symposium of Thirty-nine Contributors. Edited by Max Samter, M.D., Chief, Allergy Clinic, Research and Educational Hospital, University of Illinois; Oren C. Durham, Lecturer in Allergy with Rank of Assistant Professor, University of Illinois College of Medicine, Chicago, Illinois; Chief Botanist, Abbott Laboratories, North Chicago; etc. Charles C. Thomas, Springfield, Illinois. 1955. 395 Pages. Illustrated. Price $8.50.

Inevitably practicing physicians are confronted with the question "What will this—my husband's transfer, our son's leaving for college in Texas, our father's moving to Florida—do to his allergy?". This book is designed to help answer that question. The problem is reviewed by one or more practicing allergists who are familiar with the picture as it exists in their particular region.

The book is divided into 34 chapters or regions. Each chapter contains information regarding the

geographical relief, climate, social structure, population characteristics, housing, heating, industries, pollen allergens, inhalant allergens other than pollens, and special local considerations of importance to allergic individuals. Extensive pollination tables or charts are given for each region.

The information is presented in a pleasing, easy to read fashion. In some sections the native-son-pride of the author passes the boundary of scientific objectivity with phrases certain to swell the heart of the local Chamber of Commerce. Rather than detracting from, this adds to the reading pleasure of the book.

This book is recommended for the reference shelf of all practicing physicians and should certainly be available in all medical libraries.

ADNEY K. SUTPHIN, M.D.

This Pace is NOT Killing Us. By J. I. RODALE. Rodale Books, Inc., Emmaus, Pennsylvania. 1954. 64 pages. Price $1.00.

As the author states this book is an attempt (by a layman) to answer the question: "Is the so called stress and strain of modern living the cause of the sharp increase in deaths from heart disease?" This is a short volume of 64 pages, there are 13 brief chapters which may be read in two hours time or less. The chapters are variously titled: I. A Dangerous Fallacy; II. Our Homes; III. Transportation; IV. Office and Factory; V. The Doctor; VI. Imaginary Confusion and Turmoil; VII. Statements by Physicians; VIII. Man Was Made To Move; IX. To Live Is To Move; X. Mental Tension; XI. Cheers and Pigs; XII. Mass Malnutrition; XIII. Conclusion; Appendix, History of J. I. Rodale's Pulse; Appendix II. A Method of Reducing Pulse Through Diet.

It is obvious from a perusal of the chapter headings that the presentation is that of a faddist, with no effort on his part to catalog and discuss objectively the available pertinent evidence on this widely and popularly debated question. To get to the crux of the matter the author suggests a preventive regimen for one unafflicted with heart disease to avert an attack. He recommends: 1. A daily walk of gradually increasing distance; 2. The taking of Vitamin E which he claims is a specific for practically all heart cases; 3. The development of a slow pulse through daily exercise (as an aside the author quotes Drs. Hammond and Horn from the J. A. M. A. of August 7, 1954 that among persons with high pulse rate the number of deaths from cancer was about 60 percent above the expected). 4. The avoidance of the eating of figs, honeydew melons, whole wheat or fried foods of any kind. Branless whole wheat bread is advised. Coffee was found by the author not to affect the pulse.

The author, J. I. Rodale served as an accountant for seven years before entering the publishing business in 1942. He is the publisher of the Rodale Press, Editor and Publisher of *Organic Gardening*, President of Soil and Health Foundation of Allentown, Pennsylvania, and author of several word finders for crossword puzzle addicts, several gardening books, as well as several other pseudo-scientific medical books for the layman. (Sleep and Rheumatism, 1959; The Healthy Hunzas, 1948.)

It seems to the reviewer that the physician should be aware of this type of literature. This is an example of the type of book seized upon by the gullible, and uninformed and anxious public concerned about heart disease.

MARVIN BLEIBERG

Pomp and Pestilence. Infectious Disease, Its Origins and Conquest. By RONALD HARE, M. D., Professor of Bacteriology in the University of London at St. Thomas's Hospital Medical School. The Philosophical Library, Inc., New York. 1955. 224 pages. Cloth. Price $5.75.

The author has treated in an interesting manner the subject of endemics and epidemics amongst man from prehistoric times to present. He has followed the history of theories of disease and correlated the theories of their day with the management of infection.

The role of infectious disease in dictating the fates of nations and civilizations is illustrated with many examples that are different and presented in more detail than usually is found in such accounts. Direct quotations from official records and anecdotes of contemporaries make the reading of the history of pestilence in England particularly vivid and interesting. Considerable emphasis is placed upon the appalling filthiness of man, who, with but few lapses in times past, has just become clean in the western world as of today.

This book may be considered "popular" but deals soberly and accurately with a phase of history that should be familiar to both layman and physician.

H. J. WELSHIMER

Woman's Auxiliary . . . .

President — Mrs. Maynard R. Emlaw, Richmond
President Elect — Mrs. Mervin W. Glover, Arlington
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TENTATIVE PROGRAM
of the
Thirty-third Annual Convention
Richmond, Virginia — October 16-19, 1955
Headquarters—Hotel Jefferson

Chairmen of Arrangements
Mrs. James R. Grinels
Mrs. George H. Snead

A cordial invitation is extended to all members of the Woman's Auxiliary to The Medical Society of Virginia, their guests and the guests of physicians attending the convention of The Medical Society of Virginia, to participate in all social functions and attend the general meetings of the Auxiliary.

Headquarters will be at the Hotel Jefferson. Luncheon tickets will be available at the registration desk only, and reservations will close at 10:00 a.m. on Tuesday. Please register early and obtain your badge and program.

Registration Hours

Sunday	October 16	5:00 P.M. to	7:00 P.M.
Monday	October 17	9:00 A.M. to	4:00 P.M.
Tuesday	October 18	9:00 A.M. to	10:30 A.M.

Monday, October 17

10:30 A.M.—Pre-Convention Board Meeting—Washington Room, Hotel Jefferson
Mrs. Maynard R. Emlaw, President, presiding
All State officers, chairman, County Auxiliary presidents and presidents-elect are expected to attend. Members-at-large are also invited to attend.

4:00 P.M.—5:00 P.M.—Tea—Valentine Museum, in honor of all members-at-large and County Auxiliary presidents.

Tuesday, October 18

9:45 A.M.—Formal opening of the Thirty-third Annual Convention of the Woman's Auxiliary to The Medical Society of Virginia—Empire Room, Hotel Jefferson
Mrs. Maynard R. Emlaw, President, presiding
Invocation—Mrs. Hawes Campbell
Pledge of Loyalty to the Woman's Auxiliary to the American Medical Association
Address of Welcome—Mrs. George H. Snead, President, Woman's Auxiliary to the Richmond Academy of Medicine
Response—Mrs. Lee S. Liggan
Convention Announcements—Mrs. James R. Grinels
Roll Call—Mrs. J. W. Carney, Recording Secretary
Minutes of Thirty-second Annual Convention—Mrs. J. W. Carney
In Memoriam—Mrs. Fletcher J. Wright, Sr.
Presentation of Honored Guests—Mrs. Robert Flanders, of Manchester, N. H., President-Elect of the Woman's Auxiliary to the American Medical Association, and Mrs. Louis K. Hundley, of Pine Bluff, Ark., President of the Woman's Auxiliary to the Southern Medical Association
President's Report—Mrs. Maynard R. Emlaw
Reports of Officers
Reports of Chairmen of Standing Committees
Reports of Chairmen of Special Committees
Reports of County Auxiliary Presidents
(All above reports shall be limited to two minutes)
Report of Annual Convention of the Woman's Auxiliary to A.M.A., held in Atlantic City, June 6-10, 1955—Mrs. Richard M. Reynolds
Report of Registration—Mrs. Robert B. Lawrence
Unfinished Business
New Business
Recommendations from the Board
Report of Revision Committee—Mrs. John R. St. George
Courtesy Resolutions—Mrs. Robert D. Keeling
Report of Nominating Committee—Mrs. Kalford W. Howard, Chairman
Election of Officers
Adjournment

Inaugural Luncheon

1:00 P.M.—Commonwealth Club
Mrs. Maynard R. Emlaw, President, presiding
Invocation—Mrs. Hawes Campbell
Presentation of Honored Guests
Luncheon
Guest Speakers
Mrs. Robert Flanders, President-Elect, Woman's Aux. to A.M.A.
Mrs. Louis K. Hundley, President, Woman's Aux. to Southern Medical Association
Installation of Officers
Presentations of:
President's pin and gavel—Mrs. Maynard R. Emlaw
Past-President's pin—Mrs. Kalford W. Howard
Inaugural Remarks—Mrs. Mervin W. Glover
Convention Acknowledgements—Mrs. James R. Grinels
Fashion Show—Mrs. Randolph H. Hoge
Adjournment

Wednesday, October 19

8:30 A.M.—Past Presidents' Breakfast—Mrs. Kalford W. Howard, Chairman
9:30 A.M.—Post Convention Board Meeting—Washington Room—Hotel Jefferson
Mrs. Mervin W. Glover, President, presiding
All State officers and chairmen, County Auxiliary presidents and presidents-elect are expected to attend. Members-at-large are also invited to attend.

PROGRAM

108TH MEETING

THE MEDICAL SOCIETY OF VIRGINIA

HOTEL JEFFERSON

RICHMOND

OCTOBER 16, 17, 18, AND 19, 1955

Sunday, October 16
1:00 P.M.
COUNCIL

7:00 P.M.
House of Delegates—Dinner Meeting

Monday Morning, October 17
9:00 A.M.

Section A—Ballroom

Garrington Williams, M.D., Richmond, Presiding

9:00 A.M.—Welcome and Preliminary Announcements—Presiding Officer

9:15 A.M.—PENICILLIN HYPERSENSITIVITY—Oscar Swineford, Jr., M.D., and William P. Coleman, M.D., Charlottesville

A case of extreme hypersensitivity with shock following a scratch test with Penicillin and following injections of a variety of other drugs from syringes previously used for Penicillin injections. A brief review of Penicillin allergy is included.

9:45 A.M.—OTOLARYNGOLOGICAL MANIFESTATIONS OF ALLERGY—J. Warrick Thomas, M.D., Richmond

The close relationship of allergy and diseases of the upper respiratory tract, including the ears, are considered in addition to hay fever and perennial nasal allergy involving the nose and accessory sinuses.

9:55 A.M.—THE USE OF CORTISONE IN THE TREATMENT OF ARTHRITIS COMPLICATED BY DUODENAL ULCER—Mary C. Gray, M.D., Herndon

The case history is presented of a 72 year old white female with mixed arthritis complicated with duodenal ulcer, both producing severe symptoms. After one year of treatment with cortisone the patient is markedly improved.

10:15 A.M.—THE DIAGNOSIS OF CHEST PAIN—Paul D. Camp, M.D., and Herbert G. Langford, M.D., Richmond

An analysis of 100 cases of chest pain is presented with emphasis on the value of careful and repeated study in their differential diagnosis. Selected cases illustrating diagnostic points will be presented.

10:30 A.M.
Recess to Visit Exhibits

11:00 A.M.—RUPTURE OF THE NORMAL AND DISEASED SPLEEN—James S. Berger, M.D., Norfolk

Traumatic rupture of the spleen is discussed. Discussion is based on 21 patients with ruptured spleen seen during the past seven years while in the service and in Norfolk and also on a detailed analysis of the literature of the last 50 years. Rupture of the diseased spleen is also discussed, especially in respect to infectious mononucleosis and malaria. An analysis is made and conclusions drawn.

11:20 A.M.—DIAGNOSIS AND SURGICAL TREATMENT OF ADRENAL GLAND PATHOLOGY—Austin I. Dodson, Jr., M.D., Richmond

Surgery of the adrenal glands has assumed considerable importance due to recent developments in adrenal physiology, diagnostic procedures and surgical technique. A brief summary of the major adrenal pathology is presented. Special emphasis is placed on the diagnosis and surgical treatment of the adrenogenital syndrome, Cushing's disease and pheochromocytoma.

11:40 A.M.—CHARACTERIZATION OF CERTAIN ENDOCRINE SYNDROMES BY SPECIFIC LABORATORY ASSAYS—Isabel Tolliferro, M.D., Richmond

The diagnostic aid derived from 17-ketosteroid, corticosteroid, and FSH determinations will be discussed. Pertinent data will be presented to illustrate the significance of these tests in patients having primary ovarian agenesis, pituitary insufficiency, Addison's disease, congenital adrenal hyperplasia, and Cushing's syndrome.

Section B—Flemish Room

James W. Love, M.D., Alexandria, Presiding

9:00 A.M.—Welcome and Preliminary Announcements—Presiding Officer

9:15 A.M.—THE DEGENERATIVE DISC SYNDROME—Allen M. Ferris, M.D., Arlington

The role of posture in the degenerative disc syn-

drome. Functional x-ray examination of value in diagnosis and treatment. The importance of the problem in modern-day life and the part of the general practitioner and specialist in prophylaxis and treatment.

9:35 A.M.—JOINT MANIPULATION IN PRIVATE PRACTICE—John McM. Mennell, M.D., Fishersville.

In the belief that most physicians now recognize that there is a place for joint manipulation in the treatment of their patient's somatic complaints, this paper sets forth the indications and contra-indications for this form of therapy.

9:55 A.M.—HEAD INJURIES IN THE GENERAL PRACTICE OF MEDICINE—I. S. Zlass, M.D. and H. S. Zlass, M.D., Richmond.

Modern concepts of the diagnosis and management of craniocerebral trauma, with special reference to its importance in the general practice of medicine. A classification of head injuries. Special emphasis is given to the post-concussion syndrome and its medico-legal implications. Illustrative case material. (Lantern Slides)

10:15 A.M.—A CRITICAL REVIEW OF THE VALUE OF OPERATIVE CHOLANGIOGRAMS—J. D. Adams, M.D., R. D. Noel, M.D., Clifton Forge.

Operative Cholangiograms in bile tract surgery have reduced the number of choledochostomies and residual stones. It is a definite adjunct in effectively visualizing the common duct as to injury, reconstructive efforts or congenital anomalies.

10:30 A.M.

Recess to Visit Exhibits

11:00 A.M.—PHEOCHROMOCYTOMA—Case Report—James M. MacMillan, M.D., and Donald S. Daniel, M.D., Richmond.

Pheochromocytoma is the appellation attached to chromaffin tumors of the medulla of the adrenal gland. An unusually large pheochromocytoma, a physiologically malignant tumor of the medulla and the adrenal, will be presented together with a summary of the physiology and pathology of the adrenal glands.

11:20 A.M.—RESULTS OBTAINED BY OPERATION UPON 100 CONSECUTIVE CASES OF DEAFNESS DUE TO OTOSCLEROSIS—Cary N. Moon, Jr., M.D., and Fletcher D. Woodward, M.D., Charlottesville.

The experience and results obtained in the study and performing of the fenestration operation upon a group of one hundred patients who were deaf as a result of clinical otosclerosis.

11:40 A.M.—CLUB FOOT TREATMENT AND RESULTS OF CONTINUATIVE MANAGEMENT—William M. Deverle, M.D., and Carl J. Roncaglione, M.D., Richmond.

Continuative club foot care enables the pediatrician and general physician to appreciate more the importance of early diagnosis and treatment. Indications for hospitalization and surgical intervention are more clearly defined and a more accurate prognosis can be offered to the parents and/or custodian. Duration of treatment is reduced and results are improved.

Monday Afternoon, October 17

2:30 P.M.

General Session—Ballroom

Waverly R. Payne, M.D., Newport News, Presiding.

2:30 P.M.—THE RELATION BETWEEN GALL BLADDER DISEASE AND HEART DISEASE—Julian R. Beckwith, M.D., and J. Edwin Wood, M.D., Charlottesville.

2:50 P.M.—ACUTE PANCREATITIS—James O. Burke, M.D., Richmond.

3:10 P.M.—Guest Speaker—Richard B. Cattell, M.D., Lahey Clinic, Boston—ADVANCES IN PANCREATIC SURGERY.

3:30 P.M.—Question and Answer Period.

Annual Meeting of Virginia Medical Service Association will be held immediately following conclusion of General Session.

Monday Evening, October 17

8:30 P.M.

Ballroom

Call To Order—John P. Lynch, M.D., Richmond, Chairman, Committee on Arrangements.

Invocation.

Awarding of Certificates to Members in "Fifty Year Club".

Memorial Hour—James A. Thweatt, M.D., Chairman, Membership Committee.

Address by President—Carrington Williams, M.D., Richmond.

Address by Dr. Paul D. Sanders, Editor, Southern Planter.

Tuesday Morning, October 18

9:00 A.M.

Section A—Ballroom

Benjamin W. Rawles, Jr., M.D., Richmond, Presiding.

9:15 A.M.—CUSHING'S SYNDROME—H. St. George Tucker, Jr., M.D., Isabel Taliaferro, M.D., and Frank A. Wade, M.D., Richmond.

Six patients with Cushing's syndrome are presented. Two cases seen prior to the era of adrenal surgery died. With adrenal surgery the other four have been

relieved of the Cushing's state and restored to mental activity. Diagnosis and management are discussed.

9:45 A.M. MALFUNCTION OF THE GASTROINTESTINAL STOMA FOLLOWING GASTRIC RESECTION. Harry I. Warthen, Jr., M.D., Richmond.

Malfunction of the gastrointestinal stoma following gastric resection is not uncommon. Failure of the anastomosis to function may persist for weeks or even months. Drastic surgery to overcome malfunction of the stoma must be avoided and the simplest procedure consistent with maintaining the nutrition of the patient should be carried out. An illustrative case will be described.

9:55 A.M.

Recess to Visit Exhibits

10:30 A.M. PANEL ON CARDIAC SURGERY.
Reno Porter, M.D., Richmond, Moderator.
Lewis H. Bosher, Jr., M.D., Richmond.
Thomas Johns, M.D., Richmond.
William H. Muller, Jr., M.D., Charlottesville.
J. Francis Dammann, Jr., M.D., Charlottesville.

Section B—Flemish Room

OBSTETRICAL AND GYNECOLOGICAL SYMPOSIUM

Eugene S. Grosclose, M.D., Lynchburg, Presiding.

9:15 A.M. ECTOPIC PREGNANCY—SELECTED DATA FROM 100 CONSECUTIVE CASES. Brock Darden Jones, Jr., M.D., and Charles F. Whicker, M.D., Norfolk.

9:35 A.M. MENSTRUAL IRREGULARITY. William Bickers, M.D., Richmond.

9:55 A.M.

Recess to Visit Exhibits

10:30 A.M. Guest Speaker: Robert A. Ross, B.S., M.D., Professor and Head of Department Obstetrics and Gynecology, University of North Carolina School of Medicine, Chapel Hill, North Carolina. OMISSIONS AND COMMISSIONS IN MATERNAL MORTALITY.

11:00 A.M. Panel Discussion.
ABNORMAL BLEEDING AT THE MENOPAUSE. Joseph C. Parker, M.D., Richmond.
HYPOFIBRINOGENEMIA IN PREGNANCY. Edwin Rucker, M.D., Richmond.
ABNORMAL UTERINE BLEEDING DURING PREGNANCY. Pembroke T. Gray, M.D., Winchester.
MANUAL EXPLORATION OF THE UTERUS FOLLOWING DELIVERY. Ruby P. Elliott, Jr., M.D., Roanoke.

REPORT OF MATERNAL HEALTH COMMITTEE. H. Hudnall Wise, M.D., Chairman, Richmond.

Tuesday Afternoon, October 18

2:30 P.M.

General Session—Ballroom

James W. Law, M.D., Alexandria, Presiding.

2:30 P.M. Guest Speaker: John del Pinderton, M.D., Emeritus Staff, Mayo Clinic, Rochester, Minnesota. SURGICAL MANAGEMENT OF NODULAR GOITER.

3:00 P.M. MEDICAL MANAGEMENT OF HYPERTHYROIDISM, INCLUDING USE OF RADIOACTIVE IODINE. Kenneth R. Crispell, M.D., Charlottesville.

3:30 P.M. Question and Answer Period.

4:00 P.M.

House of Delegates—Flemish Room

6:00 P.M.

Cocktail Party—Empire Room

7:00 P.M.

Banquet and Entertainment—Ballroom

Installation of James P. King, M.D., as President

Wednesday Morning, October 19

9:15 A.M.

Section A—Ballroom

Waverly R. Payne, M.D., Newport News, Presiding.

PANEL DISCUSSION.

9:15 A.M. THE EVALUATION OF LABORATORY PROCEDURES AND THEIR VALUES.
Edward Dow, M.D., Norfolk, Moderator.
E. William Sundermann, M.D., Jefferson Medical College, Philadelphia.
Louis Weinstein, M.D., Washington, D.C.
G. Watson Jones, M.D., Richmond.

10:45 A.M. OCULAR SIGNS IN SYSTEMIC DISEASE. E. G. Gill, M.D., Roanoke.

There is no single examination which can give you as much information about the body as the examination of the eyes. This is the only place in the body where you can see the progress of a pathological lesion without a biopsy. There are many external ocular signs that should make the ophthalmologist suspicious of systemic disease in his patient; most of these are bilateral.

11:00 A.M.

Recess to Visit Exhibits

11:15 A.M. NON-SPECIFIC MYOCARDITIS. W. T.

Thompson, Jr., M.D., and Gordon R. Henningar, M.D., Richmond.

This paper opens with a classification and general discussion of non-specific myocarditis. The pathology of non-specific myocarditis is described, followed by a discussion of etiology, with emphasis on idiopathic isolated (Fiedler's) myocarditis. The clinical features, course and prognosis of isolated myocarditis are given. A series of cases from medical literature is analyzed together with cases observed by the authors.

11:50 A.M. PHYSIOLOGICAL PHENOMENON OBSERVED IN MAN LIVING AT HIGH ALTITUDE—E. Lovell Becker, M.D., Richmond.

Studies made at the Andean Institute of Biology on men living at 15,000 feet revealed changes in the cardio-vascular renal systems. Alterations were observed in the electrocardiograms, cardiac silhouettes, renal hemodynamics and body fluid electrolytes.

Section B—Flemish Room

Benjamin W. Rawles, Jr., M.D., Richmond, Presiding

9:15 A.M. AMBULATORY ELECTROCEREBROTHERAPY IN INDUSTRY AND THE VIRGINIA STATE PENITENTIARY—H. Brick, M.D., and F. L. Finch, M.D., Richmond.

A comparative study was undertaken of the effects of ambulatory electrocerebrotherapy. The results achieved among 68 tobacco factory workers and 72 prisoners indicate that the number of treatments necessary for remission can be reduced by 50% if treated during onset of symptoms.

9:35 A.M. EXPERIENCES WITH BLEEDING GASTRIC AND DUODENAL ULCER—M. H. Todd, M.D., Coral Gables, Florida.

In 170 cases of severe ulcer bleeding, 75% of patients has responded to medical management including transfusions; in those patients requiring emergency surgery, there are technical details which can reduce mortality.

9:55 A.M.—WIRE BRUSH PLANING FOR POST-ACNE SCARRING—Thomas W. Murrell, Jr., M.D., Richmond.

The method of treating post-acne scarring with a rapidly revolving wire brush was introduced by Kurtin in 1953. Since that time a large number of dermatologists and others interested in this problem have used this method. Because of the operation's great potentialities and usefulness, this paper is presented. The procedure will be described in detail with photographs and moving pictures. Included will be pictures of a number of treated cases.

10:15 A.M.
Recess to Visit Exhibits

10:45 A.M.—SYMPOSIUM ON CONVULSIONS.

Walter Klingman, M.D., Charlotteville, Moderator

DRUG THERAPY—Cary Suter, M.D., Charlottesville.

DIAGNOSTIC VALUE OF THE ELECTROENCEPHALOGRAM—James Funkhouser, M.D., Richmond.

CONVULSIVE SEIZURES OF CHILDHOOD AND INFANCY—Harrison C. Spencer, M.D., Abingdon.

PROBLEM OF PSYCHOMOTOR SEIZURES AND SURGICAL TREATMENT—John Kendrick, M.D., Richmond.

Wednesday Afternoon, October 19
2:00 P.M.

General Session—Ballroom

Carrington Williams, M.D., Richmond, Presiding.

2:00 P.M.—MEDICO-LEGAL SESSION ON PROFESSIONAL LIABILITY INSURANCE.

Guest Speaker—Ernest C. Fisher, Jr., Claim Supervisor, Aetna Casualty and Surety Company, Richmond—MALPRACTICE.

Guest Speaker—Robert G. Butcher, Lawyer with Parrish, Butcher, Parrish and Henning, Richmond—ACTIONS FOR MALPRACTICE.

Guest Speaker—A. Scott Anderson, Partner in the law firm of Bowles, Anderson and Boyd, President of the Richmond Bar Association—THE DOCTOR AS A WITNESS AND HIS OBLIGATION TO THE COURT.

Adjournment

Virginia Chapter of the American College of Chest Physicians

Hotel Jefferson, Richmond, Virginia

Sunday, October 16

SCIENTIFIC PROGRAM, 2:00 P.M.

Medical Aspects of Carcinoma of the Lung—Dean B. Cole, M.D., Richmond.

Fungus Diseases of the Lungs—E. E. Menefee, Jr., M.D., Durham, N. C.

Modern Day Concept of the Treatment of Pulmonary Tuberculosis—William A. Hudson, M.D., Detroit, Mich.

Treatment of Childhood Tuberculosis—Edwin L. Kendig, Jr., M.D., Richmond.

Sarcoidosis—Modern Concepts—Edward S. Ray, M.D., Richmond.

BUSINESS MEETING, 5:00 P.M.

RECESS

COCKTAIL HOUR, 7:00 P.M.

BANQUET, 7:30 P.M.

Program Committee

George A. Welchons, M.D., *Chairman*
William A. Apperson, M.D.
E. James Bors, M.D.
Alfred L. Kroger, M.D.
Carl W. LaFrana, M.D., *Ex Officio*

SCIENTIFIC EXHIBITS

Jefferson Court and Mezzanine

Treatment of Infertility in Women—Mason C. Andrews, M.D., and William C. Andrews, M.D., Norfolk.

Blue Shield—M. Roy Battista and Thomas L. Martin, Richmond.

Application of Vascular Grafts—Lewis H. Bocher, Jr., M.D., and Alfred M. Decker, Jr., M.D., Richmond.

Conservation of Hearing—Neil Callahan, M.D., Norfolk.

Architectural Stress Patterns of the Femur, Radius and Tibia—Earnest B. Carpenter, M.D., Carl Roncaglione, M.D., and Juan Santos, M.D., Richmond.

Services of City Health Department—City of Richmond, Department of Health, Richmond.

Reconstructive Surgery of the Head and Neck—Claude C. Coleman, Jr., M.D., and Duncan McKee, M.D., Richmond and Charlottesville.

Radioactive Iodine in the Diagnosis of Thyroid Disease—K. R. Crispell, M.D., Guy Hollifield, M.D., William Parson, M.D., and Gerald Williams, M.D., Charlottesville.

Heart Disease and the Pulmonary Vascular Bed—J. Francis Dammann, Jr., M.D., and William H. Muller, Jr., M.D., Charlottesville.

Recent Advances in Gastro Intestinal Tubes—John W. Devine, M.D., and John W. Devine, Jr., M.D., Lynchburg.

Sciatic Tension Test—William M. Deyerle, M.D., and Virgil R. May, Jr., M.D., Richmond.

Treatment of Club Foot—William M. Deyerle, M.D., and Carl J. Roncaglione, M.D., Richmond.

Pediatric Urology—A. I. Dodson, Jr., M.D., and J. I. Hill, M.D., Richmond.

Getting Country Doctors—Edgar J. Fisher, Jr., Richmond.

Early Detection of Cancer of the Cervix—Clifford H. Fox, M.D., Charlottesville.

Modern Concepts in the Treatment of Chronic Alcoholism—Ebbe C. Hoff, M.D., J. David Markham, M.D., and Marvin C. Becker, M.D., Richmond.

Surgical Anatomy of the Mitral Valve—Meckel's Diverticulum—Thomas N. P. Johns, M.D., Helen Lorraine, and Frank S. Johns, M.D., Richmond.

Civilian Chest Injuries—Marcellus A. Johnson, III, M.D., Roanoke.

Effect of Cortisone on Tuberculous Meningitis and Pulmonary Tuberculosis—Edwin L. Kendig, Jr., M.D., Jack Choy, M.D., and William H. Johnson, M.D., Richmond.

The Diagnosis and Treatment of Focal Seizures—John F. Kendrick, M.D., Richmond, and Cary Suter, M.D., Charlottesville.

Dermatologic Treatment of Cancer—Carl S. Lingam felter, M.D., and Allen Pepple, M.D., Richmond.

A Medicolegal Symposium—G. T. Mann, M.D., and G. W. Thoma, M.D., Richmond.

Chlorpromazine in the Treatment of Mental Disease—Department of Mental Hygiene and Hospitals—Joseph F. Barrett, M.D., Richmond.

Surgery of Arterial Diseases—William H. Muller, Jr., M.D., Charlottesville.

Recent Innovations in Endoscopic Instruments—W. F. Pembleton, M.D., and M. C. Shaffer, Richmond.

Services of the Medical Illustration Department—Anne Russell, Virginia Ingram, and Katherine Fullmer, Charlottesville.

Plastic Surgery—Leroy Smith, M.D., and Hunter Jackson, M.D., Richmond.

Meniscus Injuries of the Knee—John S. Thornsevr, Jr., M.D., Norfolk.

Evaluation of the Trial Vaccine for Poliomyelitis—Hart E. Van Riper, M.D., New York, N. Y.

Emergency Medical Services—Virginia Office of Civil Defense, Richmond.

The Electroencephalography—Head Injuries and the General Practice of Medicine—Isadore S. Zlass, M.D., H. S. Zlass, M.D., Edith Black, and Alvin M. Zlass, Richmond.

TECHNICAL EXHIBITS

Technical exhibits will be in Jefferson Court and on the Mezzanine. The following is a list of these exhibits with a brief description.

Booth No. 1

Schering Corporation

Bloomfield, New Jersey

A cordial invitation is extended to the members of The Medical Society of Virginia to visit the Schering exhibit. The entire exhibit will be devoted to METICORTEN and METICORTELONE, the new adrenocorticoids for the treatment of rheumatoid arthritis, intractable asthma and other so-called collagen diseases. Extensive clinical and laboratory data demonstrating certain advantages of these new steroids over cortisone and hydrocortisone are shown.

Booth No. 2

Peoples Drug Store, Incorporated

Washington, D. C.

Peoples Drug Stores, Incorporated, are deeply grateful to the physicians of Virginia for their continued cooperation and support. The members of The Medical Society of Virginia, in attendance at the annual meeting, are cordially invited to visit our booth. Representatives of our company will be on hand to greet you and furnish information concerning the professional services offered to physicians.

Booth No. 5

Mead Johnson & Company

Evansville, Indiana

New displays of Liquid Lactum and Powdered Lactum, complete infant formulas, will be featured at the Mead exhibit. Also on display will be Liquid Sobee, the hypoallergenic soya formula, Sustagen, the complete food and Natalins, the smaller prenatal capsule.

Booth No. 7

The Dominion Laboratories

Richmond, Virginia

The medical profession is cordially invited to visit this space where Dominion's exhibit will be attended by a representative. He will be pleased to have you make requests, receive samples, and literature and discuss our specialties, ALLVITEX, BARBAMIN, etc.

Booth No. 8

The Coca-Cola Company

Atlanta, Georgia

Ice cold Coca-Cola served through the courtesy and cooperation of the Richmond Coca-Cola Bottling Works, Incorporated, and The Coca-Cola Company.

Booth No. 9

A. S. Aloe Company

Washington, D. C.

Booth No. 10

Pet Milk Company

St. Louis, Missouri

We will be pleased to have you stop and discuss the variety of time-saving material available to busy physicians. Our representatives will be on hand to discuss the merits of "Pet" Evaporated Milk for infant feeding and INSTANT "Pet" Nonfat Dry Milk for special diets. A miniature "Pet" Evaporated Milk can will be given to all visitors.

Booth No. 11

Doho Chemical Corporation

New York, New York

Doho Chemical Corporation is pleased to exhibit: AURALGAN, the ear medication for the relief of pain, Otitis Media and removal of Cerumen; New OTOSMOSAN, the effective, non-toxic ear medication which is Fungicidal and Bactericidal (gram negative-gram positive) in the suppurative and aural dermatomycotic ears; RHINALGAN, the nasal decongestant which is free from systemic or circulatory effect and equally safe to use on infants as well as the aged.

Mallon Chemical Corporation, subsidiary of the Doho Chemical Corporation, is also featuring: RECTALGAN, the liquid topical anesthesia, also for relief of pain and discomfiture in hemorrhoids, pruritus and perineal suturing; DERMOPLAST, in an aerosol freon propellent spray for fast relief of surface pain, itching, burns and abrasions. Also obstetrical and gynecological use.

Booth No. 12

VanPelt and Brown, Incorporated

Richmond, Virginia

VanPelt and Brown extend a cordial invitation to visit their exhibit where representatives will be happy to answer questions and supply clinical samples of their products.

Booth No. 13

Lederle Laboratories Division

American Cyanamid Company

New York, New York

Booth No. 14

Wm. P. Poythress & Company, Incorporated

Richmond, Virginia

The mild sedative, SOLFOTON, and the antiasthmatic,

MUDRANE, will be featured at the Posthress exhibit. Physicians attending the meeting are cordially invited to visit this booth where information, literature and professional samples of all Posthress specialties will be made available for the asking.

Booth No. 16

The Stuart Company

Chicago, Illinois

Your local Stuart representatives issue a cordial invitation to visit their booth. They will have two new Stuart products on display—SULADYNE, a more complete product for the treatment of urinary tract infections, and MULVIDREN, a unique product for children.

Booth No. 17

Ayerst Laboratories

New York, New York

The Ayerst exhibit will feature THIOSULFIL brand of sulfamethylthiadiazole for use in the treatment of urinary tract infections. Physicians are cordially invited to visit this booth where Ayerst representatives will be on hand to welcome you and to discuss any Ayerst specialties in which you may be interested.

Booth No. 18

Powers & Anderson, Incorporated

Richmond, Virginia

Booth No. 19

Tablerock Laboratories

Greenville, South Carolina

Booth No. 20

R. J. Reynolds Tobacco Company

Winston-Salem, North Carolina

Welcome to the R. J. Reynolds Tobacco Exhibit! You are cordially invited to receive a cigarette case (monogrammed with your initials) containing your choice of CAMEL, CAVALIER King Size, or WINSTON, the distinctive new king size filter cigarette.

Booth No. 21

Meridian Electronics, Incorporated

Richmond, Virginia

Exhibit and demonstration of office intercommunication systems and high fidelity music systems. "Rent-a-Call" sound systems.

Booth No. 22

Davies, Rose & Company, Limited

Boston, Massachusetts

It is with pleasure that we again have the opportunity to bring our products to the attention of the members of The Medical Society of Virginia.

Among our laboratory products, Pil. Digitalis and Tablets Quinidine Sulfate (Natural) have won the confidence of the cardiologist who knows that he can always rely on their constant and dependable potency.

Our representative, Mr. Frederick L. Moulton, will be in attendance to welcome you and to discuss these outstanding cardiac therapies as well as the serviceability of our other preparations.

Booth No. 23

Charles C. Haskell & Company, Incorporated

Richmond, Virginia

The Haskell Company's ethical prescription specialties, BELBARB (antispasmodic, sedative), HASAMAL (analgesic), SEMIDATE-M (analgesic, muscle relaxant), QuiSerpin (tranquilizer, antihypertensive) will be exhibited. Our representative will be present to welcome physicians and discuss any questions they might have.

Booth No. 24

M & R Laboratories

Columbus, Ohio

Your Similac representatives are happy to take part in this meeting. They are pleased to have the opportunity to discuss with you the role of Similac in infant feeding. They have for you the latest Pediatric Research Conferences. Also available are current reprints of pediatric nutritional interest.

Booth No. 25

The Baker Laboratories, Incorporated

Cleveland, Ohio

You are invited to visit our booth where Baker's Modified Milk and Caramel, two successful products for infant feeding, are on display.

Baker representatives will be glad to discuss the practical application of Grade A milk, adjusted fat composition, zero curd tension, synthetic vitamins and other important factors which help to eliminate many of the problems in modern infant feeding.

Booth No. 26

Physicians Products Company, Incorporated

Petersburg, Virginia

We will display the seasonal preparations currently being detailed to the medical profession by the members of Physicians Products Company.

Booths No. 27 and 28

Pepsi-Cola Bottling Company

Richmond, Virginia

Booth No. 29

Smith, Kline & French Laboratories

Philadelphia, Pennsylvania

The SKF booth will feature the latest clinical information about the remarkable new drug—THORAZINE®

—and its many and varied uses. These uses include potent anti-emetic action, potentiation of other drugs, and its unique and dramatic applications in the field of mental and emotional problems.

Booth No. 31

E. R. Squibb & Sons

New York, New York

*Thorazine—Trademark, S.K.F.

Booth No. 32

Winthrop-Stearns, Incorporated

New York, New York

MONODRAL—is a new, well tolerated, synthetic anticholinergic for peptic ulcer (gastric and duodenal), hyperacidity, phyloospasm, spastic and irritable colon. Monodral has unusual gastric antisecretory power, producing temporary anacidity in many patients.

MILIBIS SUPPOSITORIES—highly effective specific against trichomonal, monilial, bacterial (mongonococcal) and mixed vaginitis.

Booth No. 34

Walker Laboratories, Incorporated

Mount Vernon, New York

PRECALCIN and PRECALCIN LACTATE will be featured at the Walker booth. PRECALCIN is the original dietary adjunct supplying comprehensive vitamins and minerals for use during pregnancy and lactation. The new PRECALCIN LACTATE product is the same as the original PRECALCIN except for the source of calcium which is the lactate instead of the phosphate. By providing both forms, the doctor may have his choice of calcium sources to suit individual patient requirements.

Booth No. 35

Eli Lilly and Company

Indianapolis, Indiana

You are cordially invited to visit the Lilly exhibit. The display will contain information on recent therapeutic developments. Lilly sales people will be in attendance. They welcome your questions about Lilly products.

Booth No. 36

U. S. Vitamin Corporation

New York, New York

Our exhibit will feature ARLIDIN, a new vasophonic, brand of Nylidrin HCL. ARLIDIN, a pharmacologically active sympathomimetic drug, provides prolonged vasodilatation, increases cardiac output and peripheral blood flow. ARLIDIN is indicated for treatment of a wide range of functional and obliterative peripheral vascular disorders.

Professional samples and literature will be distributed by our sales representatives on our complete line of nutritional specialties.

Booth No. 37

C. B. Fleet Company, Incorporated

Lynchburg, Virginia

During the past fifty years PHOSPHO-SODA (Fleet) has been a symbol of elegance in sodium phosphate medication. FLEET ENEMA DISPOSABLE UNIT—an enema solution of Phospho-Soda (Fleet) is a worthy companion product. The single use unit simplifies and assures satisfying preparation for proctoscopy and as a routine enema it is a boon to the hospitalized patient.

Booths No. 38 and 39

The American Tobacco Company

Richmond, Virginia

The exhibit of the Research Laboratory of The American Tobacco Company will feature a new electrical device for rapid determination of moisture in tobacco. This meter was developed by our instrument division and records moisture content directly by automatically compensating for temperature variations.

Errors encountered in manually operated instruments are eliminated thereby resulting in closer control of quality in LUCKY STRIKE, PALL MALL and HERBERT TAREYTON cigarettes.

Booth No. 40

G. D. Searle & Company

Chicago, Illinois

Booth No. 41

Zimmer Manufacturing Company

Warsaw, Indiana

Be sure to visit the Zimmer booth. We have the new, revolutionary, accepted material DUROCEL for padding under plaster cast, leg ulcers, etc. We also have a complete line of orthopedic and fracture appliances. George and Harley Baxter will be on hand with Bill Peele, our Virginia representative.

Booth No. 42

Sandoz Pharmaceuticals

Hanover, New Jersey

SANDOSTEN—An antihistaminic with powerful anti-permeability action useful in the treatment of itching, asthma, etc.

FIORINAL—A new approach to therapy of tension headaches and other head pain due to sinusitis and myalgia.

CAFERGOT—Available in oral and rectal form for effective control of head pain in migraine and other vascular headaches.

HYDERGINE—A vasorelaxant with central and peripheral action useful in hypertension and peripheral vascular disorders and geriatric conditions.

Any of our representatives in attendance will gladly answer questions about these and other Sandoz products.

Booth No. 43

Abbott Laboratories

North Chicago, Illinois

A topical anesthetic with a low index of sensitivity, IRONOTHANE®, (pramoxine Hydrochloride, Abbott), will be among the new products exhibited by Abbott Laboratories. IRONOTHANE is unique in that it is unrelated chemically to the "caine" type anesthetics. Abbott will also exhibit ERYTHROCIN (erythromycin, Abbott), the direct-acting antibiotic which provides specific action against coccl infections and minimal risk of side effects. Also to be exhibited will be the non-caloric sweetener SUCARYL (Cyclamate, Abbott), Abbott's complete line of intravenous solutions and SELSUN (Selenium Sulfide, Abbott), for control of dandruff-producing seborrheic dermatitis. PENTOTHAL SODIUM, ultra-short-acting barbiturate for intravenous anesthesia, DICALETS, new vitamin and mineral tablet for pregnancy and lactation, OPTILETS, high-potency therapeutic multi-vitamin tablet, and VEDAYLIN, a homogenized mixture of seven vitamins.

Booth No. 44

The National Drug Company

Philadelphia, Pennsylvania

Booth No. 45

Richmond Surgical Supply Company

Richmond, Virginia

We shall have on display the latest in medical equipment to include the new revolutionary, self-calculating Basal Metabolar.

Booth No. 46

Ortho Pharmaceutical Corporation

Raritan, New Jersey

Ortho cordially invites you to visit their exhibit. The Ortho display will feature PRECEPTIN® vaginal gel, their product for conception control designed for use without a vaginal diaphragm. Preceptin vaginal gel has achieved an outstanding record of clinical effectiveness and has been widely acclaimed by the medical profession. Your inquiries on Preceptin vaginal gel are invited.

Booth No. 47

Ciba Pharmaceutical Products, Incorporated

Summit, New Jersey

The Ciba exhibit features SERPASIL, the original pure crystalline alkaloid of Rauwolfia. SERPASIL has been found extremely useful as a tranquilizer in treating patients whose adjustment to life is completely by anxiety, irritability and various psychoses. Patients feel calm yet in properly adjusted doses retain their drive and energy. It is highly effective in many conditions where barbiturates have been commonly prescribed.

Booth No. 48

A. H. Robins Company, Incorporated

Richmond, Virginia

Physicians attending the meeting of The Medical Society of Virginia are extended a cordial invitation to visit the exhibit of the products of the A. H. Robins Company. Experienced medical representatives will be in attendance to welcome you and answer inquiries relative to any of Robins' prescription specialties.

Booth No. 49

The Borden Company

New York, New York

There's no better place to talk over the latest information on infant feeding than the Borden Prescription Products booth. On display is the complete line of Borden infant formula products for every feeding purpose or preference. If you're encountering hyperirritability or excoriation, you'll be interested in BREMIL, a formula patterned upon breast milk. If you suspect milk allergy in some of your patients, you'll find the answer in either liquid or powdered MULL-SOY, leading hypoallergenic food. For prematures, or for digestive disturbances demanding low fat and high protein, DRYCO provides an ideal, flexible formula base. And if your preference is for liquid products, you'll want the latest facts about BIOLAC.

Booth No. 50

W. B. Saunders Company

Philadelphia, Pennsylvania

Earl Dunham will be on hand again with our latest line of clinical books. Among the newest of special interest are: Williamson—Office Procedures; Cardiovascular Surgery from the International Symposium at the Henry Ford Hospital; Modell—Relief of Symptoms; Cecil-Loeb—Textbook of Medicine; Rushmer—Cardiac Diagnosis; Williams—Endocrinology; and Cowdry—Cancer Cells.

These together with our complete line will be displayed.

Booth No. 51

Burroughs Wellcome & Company (U.S.A.) Inc.

Tuckahoe, New York

President's Message . . . .

The 1955 Meeting

DURING the past year giant strides have been taken to eliminate segregation of the races. In our Society, it was decided at the last meeting to eliminate the word "white" from our Constitution and 10 local societies have so changed their Constitutions. We now have 21 Negro members of The Medical Society of Virginia.

There has been and still is a very considerable opposition to this change and it will take a long time to adjust the feelings of both races to the new order. All of us should look backward and consider the many social changes and new customs that have taken place during the relatively short life of our United States. The standards of living and the opportunities for success have been increased by leaps and bounds. The socialistic trends in political thought that are commonplace today would make the radical of 100 years ago very much ashamed of his puny efforts. Consider too the manner of dress of the two sexes. During the short span of 50 years, our women have emerged from the flowing skirts to the modern bathing suit like a silkworm bursting from its cocoon. Imagine the boy and girl of today, normally attired, appearing on an ocean beach at the turn of the century! Yet scarcely anyone is disturbed now by this radical change or by many other habits and customs that have evolved.

During the years of negotiations between the members of The Medical Society of Virginia and the Old Dominion Medical Society, it was claimed, and sincerely believed, that Negro physicians were interested only in the scientific parts of our meetings and cared nothing for the social events. This distinction is quite important to the white members and actually should mean little to the small group of Negroes.

When we meet next month, the program will include the usual social affairs. I am perfectly sure that the interests of the Society and of its individual members will best be served by what may be called "segregation". If our new members demand admission to these affairs, unpleasant reactions are inevitable. For the good of us all, let me express the hope that it will not happen. And further, I urge all members to attend this meeting and profit from the excellent program which has been arranged.

Carington Williams

President

Editorial . . . .

The Doctor Draft

DESPITE still opposition, on the part of representatives of the AMA and others, the doctor draft has been extended for two more years—until July 1, 1957, to be exact.

There are two principal changes in the law extending the draft. It no longer applies to physicians over 46 years of age, and it excludes those 35 and over whose applications for commissions in the Armed Forces have, at any time, been rejected for physical reasons. The law states specifically:

"No person in the medical, dental, and allied specialist categories shall be inducted under the provisions of this subsection . . . (A) after he has attained the thirty-fifth anniversary of the date of his birth, if he applied or has applied for a commission in one of the Armed Forces in any of such categories and is or has been rejected for such commission on the sole grounds of a physical disqualification, or (B) after he has attained the forty-sixth anniversary of the date of his birth."

While these two changes ease the pressure considerably on many physicians, they have not altered the fact that the younger physicians are still faced with positive military obligations, and such obligations should be recognized as these men plan their medical futures.

The physician completing a first year internship, who has a military obligation to Selective Service due to his age and a further responsibility to the Doctors' Draft, faces perhaps the most difficult problem. Should he begin a residency training program, he should do so with the realization that he has a military obligation and it is entirely possible he will receive orders for induction sometime during the year. The State Advisory Committee to Selective Service has been repeatedly advised by the National Committee such physicians who begin these programs cannot, except in very rare instances, be considered essential.

Should the physician completing his first year internship apply for a commission and be accepted, there is no way to determine when he will be called to active duty. It would probably be wise for such physician to request immediate orders to active duty to eliminate the period of uncertainty as to when he will be called into service.

Hospitals must also make important decisions. If a young man possessing a military obligation is appointed to a residency, it must be done with the full knowledge that he might be called any time during the year. It would, under such conditions, be most difficult to establish essentiality.

In most instances medical graduates are permitted to complete their first year internships before being called. It might be well to mention that all graduates, not members of an Armed Forces reserve component, are required to register under the special draft on the day the degree is awarded or within five days thereafter. A physician must register under the doctor draft even though he has previously registered for the regular draft.

EMCE

THE FOUR PRIORITIES UNDER THE DOCTOR DRAFT

Priority I — Physicians who received all or part of their professional education at government expense or received educational deferments in World War II, and who served less than 90 days on active duty.

Priority II — Physicians similarly educated or deferred, but who served between 90 days and 17 months on active duty.

Priority III—Physicians who did not receive government assistance toward their professional education or were not deferred for educational purposes and who have no military service.

Priority IV—Physicians with military service subsequent to September 16, 1940. Also includes those physicians who received all or part of their professional education at government expense or received educational deferments in World War II but who served on active duty more than 17 months.

News . . . .

Calendar of Coming Events

ACADEMY OF PSYCHOSOMATIC MEDICINE—Plaza Hotel, New York, N. Y., October 6-8.

THE MEDICAL SOCIETY OF VIRGINIA—Hotel Jefferson, Richmond, October 16-19.

SOUTHERN MEDICAL ASSOCIATION—Houston, Texas, November 14-17.

AMERICAN ASSOCIATION OF BLOOD BANKS—Palmer House, Chicago, Illinois, November 19-21.

NATIONAL SOCIETY FOR CRIPPLED CHILDREN AND ADULTS—Palmer House, Chicago, Illinois, November 19-21.

VIRGINIA SOCIETY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY—Medical College of Virginia, Richmond, November 29-December 2.

The Annual Banquet.

Something different in the way of entertainment is in store for those attending the annual banquet of The Medical Society of Virginia on Tuesday, October 18.

Drama—the heavy type—will be the order of the evening. The cast—Virginia physicians of course!—aided and abetted by some of Richmond's finest talent. Two skits entitled "As Doctors See Patients" and "As Patients See Doctors" will highlight the program.

Dancing shoes will be in vogue when the music begins at 9:00 P.M. The Local Committee on Arrangements promises a real surprise, but rumor has it that negotiations with a popular band of the day are under way.

It all adds up to a gala evening which no one will wish to miss.

The Southwestern Virginia Medical Society

Will hold its next meeting at the General Shelby Hotel, Bristol, on Thursday, September 15th.

New Brigadier General at Walter Reed.

The Commandant of Army Medical Service Graduate School at Walter Reed has been made a brigadier general. He is John R. Wood, who received his doctor of medicine degree from the Medical College of Virginia in 1928 and was awarded the honorary degree of Doctor of Science in 1948. General Wood is a native of Richmond, Virginia.

Dr. Walter J. Otis.

New Orleans, La., has been certified as a Mental Hospital Administrator by the Committee on Certification of Mental Hospital Administrators of the American Psychiatric Association. He is a graduate of the Medical College of Virginia, class of 1915 and is neuropsychiatrist in chief at the DePaul Hospital.

Cancer Society Moves.

The Virginia Division, American Cancer Society, has moved its headquarters from Charlottesville to 403 West Franklin Street, Richmond.

News from the State Health Department.

Health services were established in Patrick County for the first time when it became a part of the Henry-Martinsville-Patrick Health District under the direction of Dr. Stanley P. Mayers, Jr., effective August 1, 1955. Dr. Mayers has assumed the position of Director of this district after completing a year's approved Residency in Public Health.

Effective July 1, Clarke County, previously without a local health department, became a part of the Frederick-Winchester-Clarke Health District under the direction of Dr. A. L. Lindall.

After completion of the usual three months orientation training with the State Department of Health, the following Health Director appointments have been announced:

Dr. R. W. Moseley assumed the position of Director of the Carroll-Grayson Health District, effective July 1, 1955.

Dr. William P. Wagner became Director of the Dinwiddie-Prince George-Surry-Sussex Health District, effective June 15, 1955.

Dr. Thomas Christie took over his duties as assistant director of the Bedford-Franklin-Roanoke Health District, effective July 1, 1955.

With the completion of assignments of the above, all counties in Virginia are now covered by local health departments with the exception of Craig, Floyd, Gloucester, and Mathews.

Dr. J. T. Showalter,

Christiansburg, has been named to his second year as chairman of the blood program committee of the Roanoke Regional Red Cross Blood Center. This is a 36-chapter region in Virginia and West Virginia.

T. Duckett Jones Memorial Fund

The death last year of Dr. T. Duckett Jones brought to an untimely end his dedicated career in medical research. A group of his friends have initiated the T. Duckett Jones Memorial Fund in the belief that the finest acknowledgement of his work would be the establishment of a Fund devoted to advancing the research objectives to which he gave so much of himself.

At present the Committee is of the opinion that research in Rheumatic Fever, which was the subject of much of Dr. Jones' own research activity, would be given priority by the Fund's administrators, but not an exclusive claim on its income. Depending on the amount received there are a number of awards which might be made to represent the philosophy and professional interests of Dr. Jones. Among the several already suggested are: Fellowships for promising young investigators; short-term support for investigators holding permanent positions to permit completion of studies or projects, or Endowment for a T. Duckett Jones Professorship in an appropriate field in a university. Further suggestions are welcomed by the Committee. Contributions are tax exempt and should be sent to the T. Duckett Jones Memorial Fund, 525 East 68th Street, New York 21, N. Y.

Dr. William R. Nelson,

Recently of the University of Virginia, Charlottesville, is now located in Denver, Colorado, where he is connected with the University of Colorado Medical School and will also begin a practice in general and tumor surgery.

Dr. R. Finley Gayle, III,

Is now associated with Dr. R. Finley Gayle, Jr., Dr. Merritt W. Foster, Jr., and Dr. Claude L. Neale, in the practice of psychiatry and neurology. Their offices are in the Professional Building, Richmond.

Dr. W. Linwood Ball, Jr.,

Richmond, announces the association of Dr. O. T. Graham, Jr., for the general practice of medicine.

American College of Chest Physicians.

At the annual convocation, held in Atlantic City, June 4th, the following physicians from Virginia received their Fellowship certificates: Drs. William E. Apperson, Richmond; Lewis H. Bosher, Jr., Richmond; Thomas N. Hunnicutt, Jr., Newport News; Samuel McDaniel, Norfolk; and Edward S. Ray, Richmond.

Fellowships for Basic Research in Arthritis.

The Arthritis and Rheumatism Foundation is offering the following research fellowships in the basic sciences related to arthritis: Predoctoral fellowships ranging from $1,500 to $3,000 per annum, tenable for 1 year with prospect of renewal; Postdoctoral fellowships ranging from $4,000 to $6,000 per annum, tenable for 1 year with prospect of renewal; and Senior fellowships for more experienced investigators will carry an award of $6,000 to $7,000 per annum and are tenable for 3 years. The deadline for applications is October 15, 1955. For information and application forms, address the Medical Director of the Foundation, 24 West 43th Street, New York 36, N. Y.

Van Meter Prize Award.

The American Goiter Association again offers the Van Meter Prize Award of $400.00 and two honorable mentions for the best essays concerning original work on problems related to the thyroid gland. The competing essays may cover either clinical or research investigations, should not exceed 5,000 words in length and must be presented in English. Duplicate typewritten copies, double spaced, should be sent to the Secretary, Dr. John C. McClintock, 1495 Wash-

ington Avenue, Albany, New York, not later than January 1, 1956.

All Caffeine Cannot Be Removed.

Despite advertising claims of complete caffeine removal, decaffeinated coffee still has some caffeine in it according to recent tests conducted by the chemical laboratory of the American Medical Association.

"As yet it has not been possible to extract all the caffeine in commercially prepared coffee," a report in the July 23rd Journal of the American Medical Association said. The report was prepared by Robert G. Martinek, PharmD., and Walter Wolman, Ph.D., director of the laboratory.

Caffeine content in a cup of regular decaffeinated coffee is about one third of the amount in a cup of regular ground coffee. A cup of instant decaffeinated coffee has from one fourth to one eighth as much caffeine as a cup of regular ground coffee.

The report warned: "Advertising that makes claims implying the almost total removal of caffeine in decaffeinated coffees must be viewed with skepticism."

A cup of regular ground coffee has almost twice as much caffeine as does a cup of regular instant coffee.

The potential caffeine content of a cup of black tea is comparable to that of a cup of regular ground coffee, but if the tea is prepared according to directions, a cup contains only 65 per cent of the potential amount. Green tea has about three-fourths as much caffeine as black tea.

For Rent.

Doctor's office. Three doors west of the Lee Medical Building, Richmond. Will remodel to suit doctor. Write "Office", care the Virginia Medical Monthly, P. O. Box 5085, Richmond 20, Va. (*Adv.*)

Wanted.

General surgeon for part-time work in clinic group located near Richmond; also a physician to do general practice and, if desired, learn and do some general surgery and E.E.N.T. Reply stating pertinent information to #45, c/o Virginia Medical Monthly, P. O. Box 5085, Richmond 20, Va. (*Adv.*)

Position Wanted.

Veteran, aged 23, married, will be working for x-ray technician's registry, starting last of October or first of November 1955. Has had training at University of Virginia Hospital. For references, contact Dr. Vincent Archer or Miss Elizabeth Nolley, X-Ray Department, University of Virginia, Charlottesville. Write "Veteran", care the Monthly, P. O. Box 5085, Richmond 20, Va. (*Adv.*)

For Sale.

Surburban properties, homes and timberlands, located in the vicinity of Richmond and Hopewell. Sound investment opportunities. Call or write: W. E. Broaddus, phone 844, P. O. Box 479, Hopewell, Va. (*Adv.*)

Obituaries . . . .

Dr. Frank McConnell Leech,

Lexington, died August 9th following a heart attack. He was sixty years of age and a graduate of the Medical College of Virginia, class of 1920. Dr. Leech had practiced surgery in Lexington for thirty-two years. He served in the Navy during World War II. Dr. Leech was a fellow of the American College of Surgery and belonged to Omega Upsilon Phi medical fraternity, New York Southern Society and the Virginia Society of New York. He had been a member of The Medical Society of Virginia since 1924. His mother, four sisters and a brother survive him.

Dr. Earley Thomas Terrell, Jr.,

Assistant chief of neuropsychiatric service at McGuire Veterans Administration Hospital, Richmond, died July 17th. He was forty-eight years of age and a graduate of the Medical College of Virginia in 1929. Dr. Terrell was on the staff of Eastern State Hospital from 1929 to 1943. He was then on duty with the United States Navy, with the rank of commander, and became associated with the VA Hospital in 1946. Dr. Terrell had been a member of The Medical Society of Virginia for twenty years. His wife and three daughters survive him.

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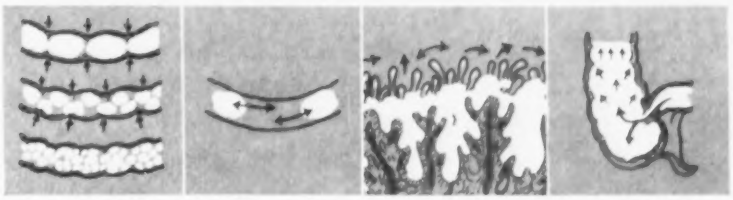

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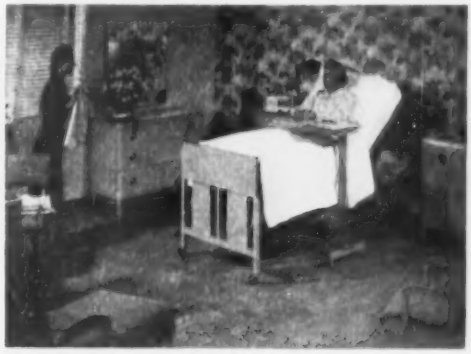

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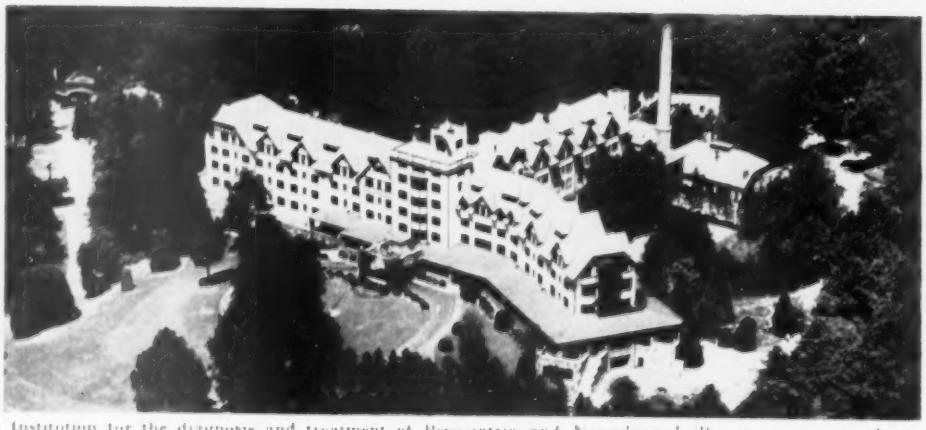

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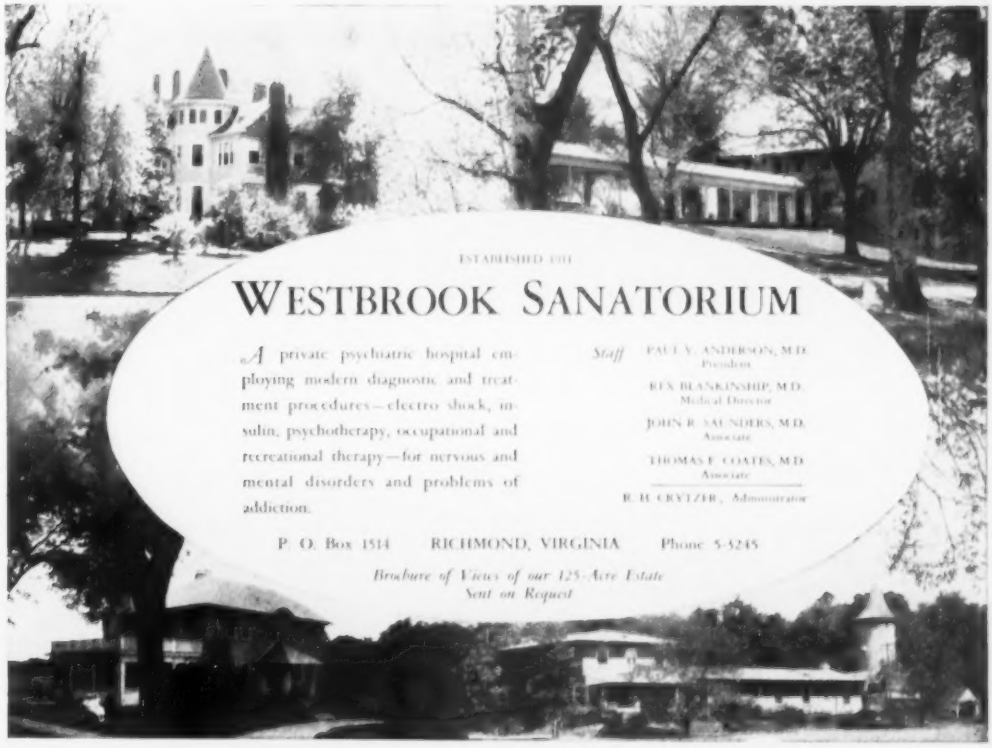

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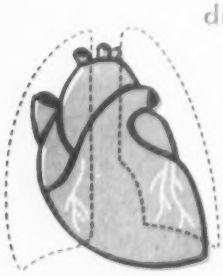

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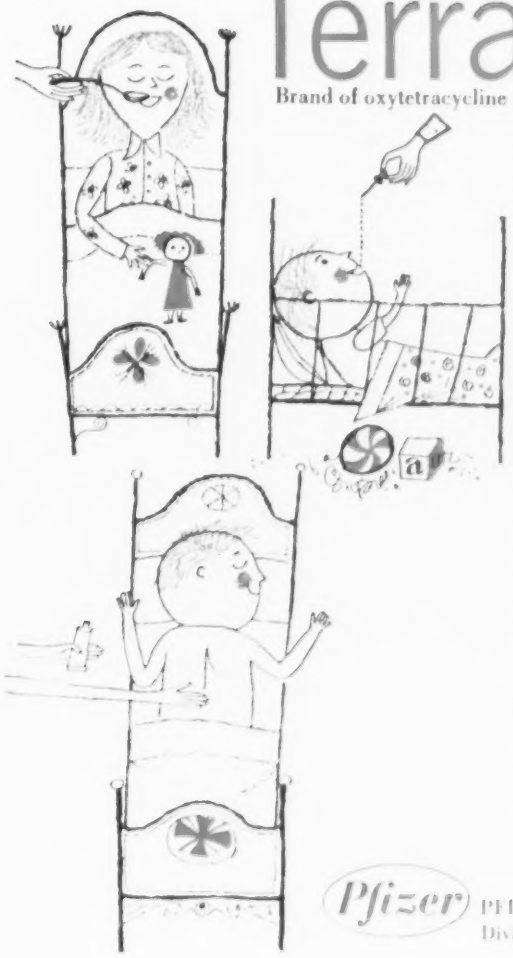

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*Harley, W. J.: Oxytetracycline in Pediatrics. Internat. Rec. Med. 168:140 (March) 1955.

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MAJOR ADVANTAGES: Economical, highly acceptable cosmetically, and effective in lower concentrations than hydrocortisone.

ALFLORONE Lotion appears to be even more effective than the ointment with the added advantage of greater patient acceptability. A recent study[1] confirmed that both product forms produce rapid relief of symptoms and involution of lesions in a significant percentage of cases of atopic dermatitis. Favorable response was also noted in contact dermatitis, anogenital pruritis, severe sunburn and intertrigo. For secondarily infected eczematous lesions, Topical Ointment of HYDRODERM affords combined anti-inflammatory and antibacterial action.

SUPPLIED: Topical Lotion ALFLORONE Acetate: 0.1% and 0.25%, in 15-cc. plastic squeeze bottles. Topical Ointment ALFLORONE Acetate: 0.1% and 0.25%, 5-Gm., 15-Gm. and 30-Gm. tubes. Topical Ointment HYDRODERM: 1% and 2.5% hydrocortisone with 3.5 mg. neomycin base and 1,000 units zinc bacitracin per gram, 5-Gm. tubes.

SHARP & DOHME

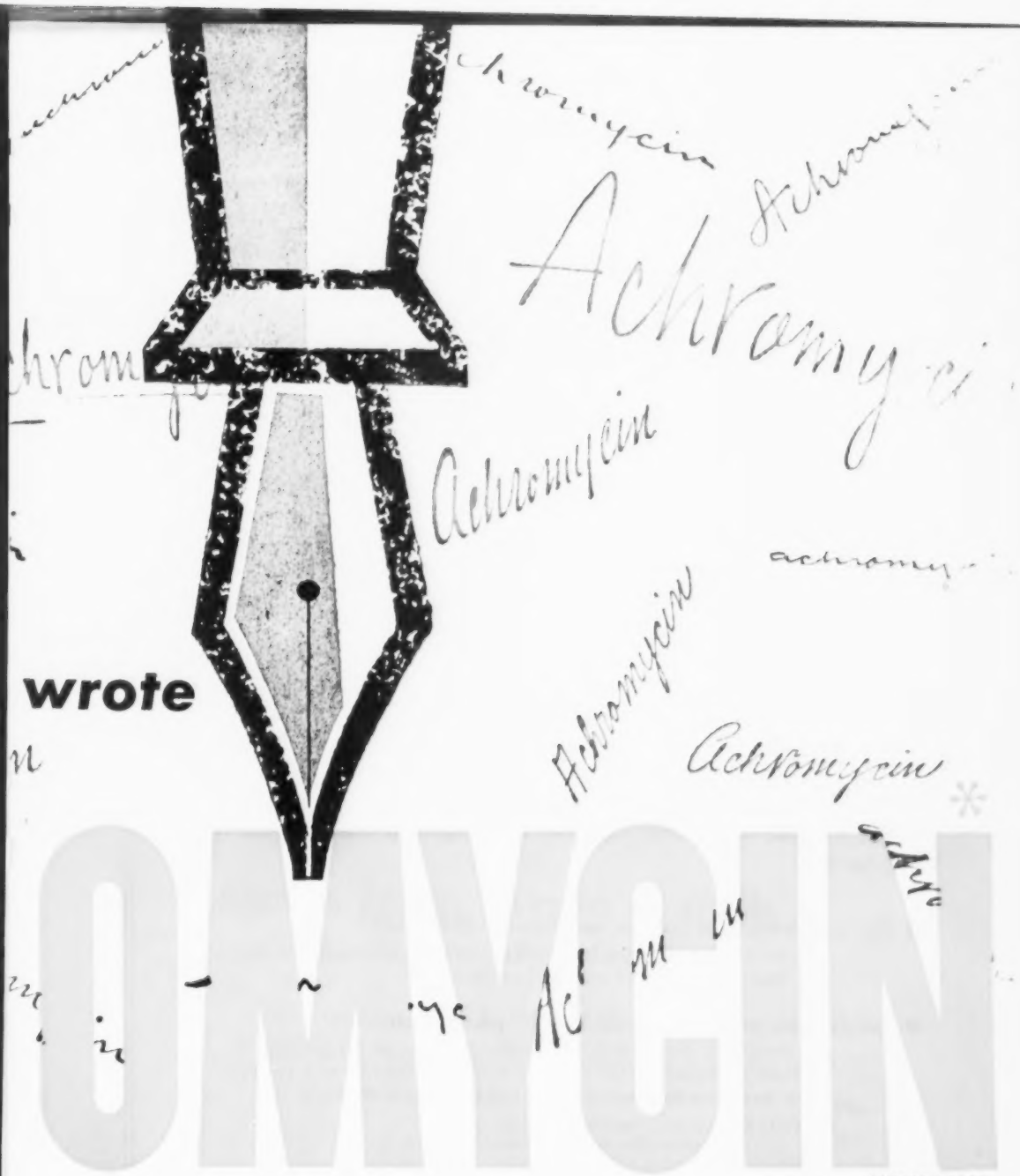
Philadelphia 1, Pa.
DIVISION OF MERCK & CO., INC.

REFERENCE: 1. Robinson, R. C. V., *J.A.M.A.* **157**:1300, April 9, 1955.

Achromycin

the success story you

ACHR



HYDROCHLORIDE
Tetracycline HCl Lederle

When you have prescribed ACHROMYCIN you have confirmed its advantages—again and again. It is well tolerated by patients of every age. Compared with certain other antibiotics, it has a broader spectrum, diffuses more rapidly, is more soluble, and is more stable in solution. It provides prompt control of many infections including those caused by Gram-positive and Gram-negative bacteria, rickettsia, and certain viruses and protozoa. Furthermore, it is a *quality* product; every gram is made under rigid control in Lederle's *own* laboratory.

ACHROMYCIN, a major therapeutic agent now...growing in stature each day!

dry-filled capsules

LEDERLE LABORATORIES DIVISION *AMERICAN Cyanamid COMPANY* PEARL RIVER, NEW YORK

*REG. U. S. PAT. OFF.

Lederle

Abdominal tenderness

—usually confined to the lower quadrants and at times found only over the cecum—is the most frequently appearing physical manifestation of amebiasis.[1]

KOHN[2] gives a simple, quick method for identifying Endamoeba histolytica in the feces. A small amount of feces is first dispersed in saline solution. If the feces are formed and amebic cysts are likely to be present, solution 1 is used (1 cc. liquefied phenol, 0.6 cc. glacial acetic acid and 50 cc. distilled water). When feces are fluid and vegetative forms are suspected, solution 2 is substituted (0.9 cc. liquefied phenol and 50 cc. distilled water). Two or three drops of the proper reagent are placed on the slide and a loopful of the feces-saline dispersion is added; a cover-glass is applied. The solutions afford a rapid means of differentiation by changing the refractive index of the cells. When the reagent for identifying cysts is used, chromatoid bodies in the cells stand out clearly as rods, bars or short spindle-shaped bodies. Solution 2 outlines details of the nuclear structure, vacuoles and ingested material in the trophozoites.

- ***For nondysenteric colonic amebiasis*—MILIBIS®**

  1 tablet 3 times a day for from 7 to 10 days is most commonly used and "has an efficiency of nearly 80 per cent."[3]

- ***For hepatic amebiasis*—ARALEN® phosphate**

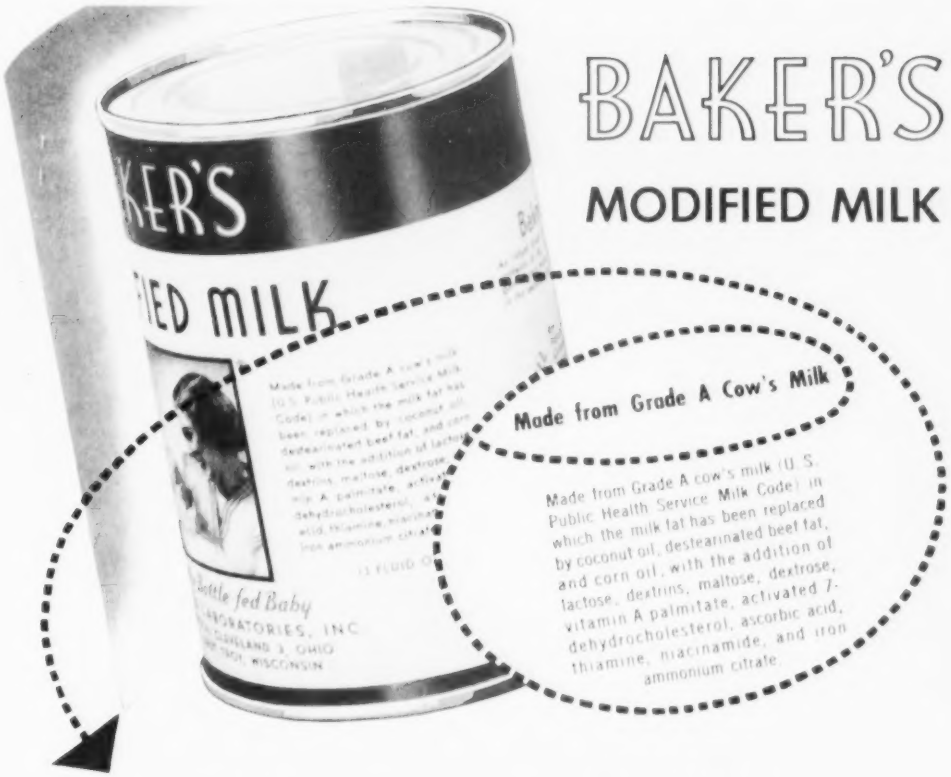
  2 tablets daily for from 2 to 3 weeks—"because of the toxicity of emetine and because of the efficiency of chloroquine [Aralen], chloroquine has taken the place of emetine as the drug of choice."[3]

  SUPPLIED: Milibis—tablets of 0.5 Gm.
  Aralen phosphate—tablets of 0.25 Gm.

Winthrop-Stearns INC. NEW YORK 13, N. Y. • WINDSOR, ONT.

Milibis and Aralen, trademarks reg. U.S. Pat. Off., brand of glycobiarsol and chloroquine, respectively.

1. Martin, G. A., Garfinkel, B. T., Brooke, M. M., Weinstein, P. P., and Frye, W. W.: *J.A.M.A.*, 151:1055, Mar. 28, 1953.
2. Kohn, J.: *Jour. Trop. Med.*, 53:212, Nov., 1950.
3. Information Please: *GP*, 4:91, Sept., 1951.



BAKER'S

MODIFIED MILK

made from grade A milk*

"The first in infant feeding"

This statement is your assurance of the use of high quality, clean milk. Make a habit of looking for it on the label of the milk products which you prescribe for infant feeding.

The quality of the ingredients is reflected in the quality of the final product!

FEEDING DIRECTIONS		
	Baker's	Boiled Water
First 5 days of life	1 part	2 parts
Second 5 days	1 part	1½ parts
After 10th day	1 part	1 part

*U. S. Public Health Service Milk Code

THE BAKER LABORATORIES, INC.

Milk Products Exclusively for the Medical Profession

MAIN OFFICE: CLEVELAND 3, OHIO PLANT: EAST TROY, WISCONSIN

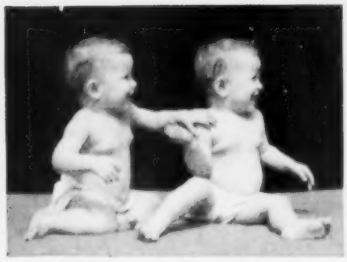
for strong, sturdy, solid growth

Lactum

LIQUID OR POWDERED

NUTRITIONALLY SOUND FORMULA FOR INFANTS

Lactum®-fed babies get all the proved benefits of a cow's milk and Dextri-Maltose® formula. Mothers appreciate the convenience and simplicity of this ready-prepared formula. Physicians are assured the important protein margin of safety for sturdy growth.



Lactum-fed babies are typically sturdy babies because Lactum supplies ample protein for sound growth and development.

The generous protein intake of babies fed milk and carbohydrate formulas such as Lactum promotes the formation of muscle mass. It also provides for good tissue turgor and excellent motor development.[1]

(1) Jeans, P. C., in A. M. A. Handbook of Nutrition, ed. 2, Philadelphia, Blakiston; 1951, pp. 275-278.

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